

Current Awareness Bibliography (CAB) on Diskette Functional Description

DAITC/TR-88/002

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Current Awareness Bibliography (CAB) on Diskette Functional Description

August 19, 1988

TABLE OF CONTENTS

SECTION	1	FUNCTIONAL DESCRIPTION	
1.1 1.2 1.3	Proje	ose of Functional Descriptionect References	1 1 2
SECTION	2	SYSTEM SUMMARY	
2.1 2.2 2.3 2.4 2.4.1 2.4.2 2.4.2.1 2.4.2.2 2.4.2.3 2.4.2.4 2.4.2.5 2.4.2.6 2.5	Object Existi Proposition Summer Equipment Softwood Organ Oper Development Other Softwood Other Exists of the Softwood Other Exists	ground	5 5 10 12 13 13 14 14 14 14
SECTION	3	DETAILED CHARACTERISTICS	
3.1 3.1.1 3.1.2 3.2 3.3 3.4 3.5	Accu Timin Syste Input Data	cific Performance Requirements racy Requirements ng em Functions cs - Outputs Characteristics re Contingencies	18 18 18
SECTION	4	ENVIRONMENT	
4.1 4.2 4.3 4.3.1 4.3.2 4.4	Supp Inter Exter Inter	pment Environment oort Software Environment faces rnal Interfaces nal Interfaces urity and Privacy	26 26 26
SECTION	5	COST FACTORS	
5.1	Cost	Factors	28
SECTION	6	SYSTEM DEVELOPMENT PLAN	
6.1	Syste	em Development Plan	30
APPENDI	CES		

SECTION 1 FUNCTIONAL DESCRIPTION

1.1 PURPOSE OF FUNCTIONAL DESCRIPTION

This Functional Description for Current Awareness Bibliography (CAB) on Diskette, DTIC Major Project 733 13 3200, is written to provide:

- a. The system requirements to be satisfied, which will serve as a basis for mutual understanding between the user and the developer.
- b. Information on performance requirements, preliminary design, and user impacts, including fixed and continuing costs.
- c. A basis for the system test.

The user organization will consist of subscribers to the Current Awareness Bibliography on Diskette service. The developer organization will be the Defense Technical Information Center (DTIC), who will expand the present CAB service to include CAB on Diskette. Developmental assistance in the microcomputer area will be provided by the Defense Applied Information Technology Center (DAITC).

This document is intended to give an overview of the CAB on Diskette system. The basis for this document is the Current Awareness Bibliography User Needs Assessment, conducted in July 1988, where 3,500 surveys were sent to current CAB users to determine microcomputer hardware and software available to these users, retrieval software capability expectations, CAB information utilization patterns, and interest in CAB on Diskette prototype participation. Of the 3500 surveys mailed, 337 were returned to DTIC by August 12, 1988, the survey receipt cutoff date.

This document is organized according to the DLA ADS Life Cycle Management Specifications, with the sections of the standards document corresponding to the sections of this document. In those instances where sufficient information is not available, greater detail will be included in the CAB on Diskette System Specification.

1.2 PROJECT REFERENCES

Project Title:

Current Awareness Bibliography (CAB) on Diskette.

Project Sponsor:

Defense Technical Information Center Office of

Information Systems and Technology.

Carol Jacobson, Project Officer.

Project User:

Defense Technical Information Center Office of

Information Systems and Technology.

Operating Centers: Various CAB user sites.

References:

- a. Current Awareness Bibliography (sample) September, 1987, (Appendix F).
- b. Current Awareness Bibliography (CAB) Direct Input Procedures, DTIC, May 1983 (annotated 1986-87).
- c. Current Awareness Bibliography (CAB) on Diskette Project Implementation Plan, DAITC, May 1988 (Appendix A).
- d. Current Awareness Bibliography User Needs Assessment (survey document), DAITC, June, 1988 (Appendix C).
- e. Current Awareness Bibliography User Needs Assessment Summary, DAITC, August 1988 (Appendix B).
- f. DLA ADS Life Cycle Management Specifications, DLA, July, 1985.
- g. Major Project 731.4201, Electronic Document System (EDS) Update, DTIC, February, 1987.
- h. Major Project 733 13 3100, Technical Report Database Optical Media (CD-ROM) Prototype, DTIC, November, 1987.
- i. Major Project 733 13 3200, Current Awareness Bibliography (CAB) on Diskette Project Statement, DTIC, July 1988 (Appendix D).
- j. Non-Standard Media Distribution Project Statement, DTIC, September, 1986, (Appendix E).
- k. Organization, Missions, and Functions, DTIC, August, 1987.

1.3 TERMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>
Accession number	The AD number is composed of a transaction type prefix and a uniquely assigned serial number for ADP and document processing and control.
AD	Accession Document.
ADN	Accession Document Number.
ADP	Automated Data Processing.
ASCII	American Standard Code for Information Interchange; a computer coding system used to represent the alphabetic, numerical, and punctuation characters.

ATN Automated Technical Abstract Bulletin Notice. Collection of citations to reports, usually limited to one Bibliography or more specific subject categories. Provides data on each report such as title, accession number, classification, author, date of report, abstract, and other items. CAB Current Awareness Bibliography. CAB Program Current Awareness Bibliography Program. A customized, automated bibliography service based on the information needs of DTIC users. CD-ROM Compact Disk Read-Only Memory. A computer storage medium used to retrieve stamped information. CGA Color Graphics Adapter - a hardware display add-on for IBM PCs that includes three color signals (red. green, and blue) and a resolution of 640 by 200 pixels. DAITC The Defense Applied Information Technology Center. Diskette A 5 1/4" magnetic computer storage medium to be used with the CAB on Diskette system. DROLS Defense RDT&E (Research, Development, Technology, and Engineering) On-Line System. DTIC The Defense Technical Information Center. **DTIC 2000** The planning document designed to take DTIC into the 21st century. DTIC-B The Office of User Services. DTIC-EA The Information Research and Technology Division of the Office of Information Systems and Technology. The Directorate of Document Services. DTIC-F DTIC-HAR The Retrieval Analysis Branch of the Analysis Division of the Directorate of Database Services. The Directorate of Telecommunications and ADP DTIC-Z Systems. **EGA** Extended Graphics Adapter - a hardware display addon for IBM PCs that includes six color signals (two

by 350 pixels.

each for red, green, and blue) and a resolution of 640

Mainframe A classification of computers usually referring to a

machine capable of supporting twenty or more simultaneous users, several megabytes of memory, and a high-performance central processing unit (CPU).

Master File Compilation of data on each CAB profile within a

specific cycle. Includes ID line, search terms, title, requester's name, search control number, user code, and other optional data such as index request and AD

number limitations.

Mouse A graphical user interface input device made popular

with the Apple Macintosh microcomputer; the point-

and-shoot device.

New Master File Updated, most current Master File.

Profile List of data under one CAB search control number.

Includes ID line, terms (subject, field and group, contract number, etc.) title, requester's name, index

request, and AD number restrictions.

Prototype An implementation of an information system designed

to prove feasibility; not intended to be the final,

productional system.

RAM Random Access Memory used by the computer as

primary, or scratch pad, storage, as opposed to

secondary, or permanent, storage.

Semimonthly Twice a month.

TR The Technical Reports citation database.

TRESP The DAITC facility management contractor.

VGA Video Graphics. Array - a hardware display add-on

for IBM PCs that supports 256 colors from a pallatte of 262,144 and a resolution of up to 640 x 480 pixels.

WORM Write Once, Read Many optical disk drive.

SECTION 2 SYSTEM SUMMARY

2.1 BACKGROUND

The CAB on Diskette system has been approved for design and development by the Defense Technical Information Center's Office of Information Systems and Technology. The system will allow the current CAB users to receive the bibliography on a diskette suitable for an IBM PC or PC-compatible database management system.

Under the current system, the user receives a printed copy of his or her customized bibliography. Although each individual CAB has indices on the contract number, subject, corporate author, personal author, report number, and title, these indices are only available for the current CAB mailing and not on a cumulative basis. With the CAB on Diskette system, however, users will be able to add the bibliographies to a personalized database on an IBM PC hard disk, with the potential of keeping the database on a Write Once Read Many (WORM) drive. This gives individual users the power to personalize their database and to access the data in ways that best meet their needs.

2.2 OBJECTIVES

The major goals of the CAB on Diskette system are as follows:

- To determine the feasibility of producing Current Awareness Bibliographies on diskette as well as in hard copy.
- To provide DTIC CAB users with an electronic format of the Current Awareness Bibliography.
- c. To provide CAB users with an off-the-shelf database management system that matches the features that they requested in the User Needs Assessment and is compatible with the computer equipment that they have available. Detailed requirements are given in Section 3.1, Specific Performance Requirements.

The objectives above relate to the following DTIC 2000 goals:

- 4.2 Establish the kinds of information storage needed.
- 4.7 Use new technologies to expand the media in which DTIC products are provided.

2.3 EXISTING METHODS AND PROCEDURES

CAB is a profile-based service, in which the potential CAB recipient works with a DTIC information retrieval specialist to establish a "profile" that describes the user's interests. The profile is most likely to be a "subject profile" relating to the subject of the literature. DTIC's computer will match each user's

individual profile against the new reports that have arrived at DTIC during the preceding two weeks. The data sent to CAB users is part of the Technical Reports (TR) Database. The data is manually input from DD Form 1473, then data is pulled from the Technical Reports Database and sent to interested users, who will automatically be mailed a bibliography with complete information on the reports matching his or her profile (see Appendix F). The information will include, but not be limited to, personal author, corporate author, title, subject terms, and abstract. The user is encouraged to review his or her profile and modify it as needed to ensure that the CABs are as useful as possible.

a. Organizational/Personnel Responsibilities

<u>Unit</u>	<u>Responsibilities</u>
DTIC-HAR	Support the CAB User Community and distribute CABs; maintains user profiles.
DTIC-ZD	Monitors DROLS and associated automated information systems.

b. Equipment Available

Equipment Description	Remarks
UNISYS 1182	Classified system - holds the bibliographic data.
UNISYS 1161	Unclassified system - updates are performed here.

c. Inputs and Outputs

Description	I or O	Frequency	High/Med./Low	<u>Remarks</u>
CABs	0	Semimonthly	High - 3200	Mailed
TR (Working file)	1	Daily	300	Entered from DD Form 1473.
User profiles (Working file)	I	Daily		Modified by DTIC Database Services.

TR (Master file)	1	Two weeks	Copied from the 1161 to the 1182.
User profiles (Master file)	I .	Two weeks	Copied from the 1161 to

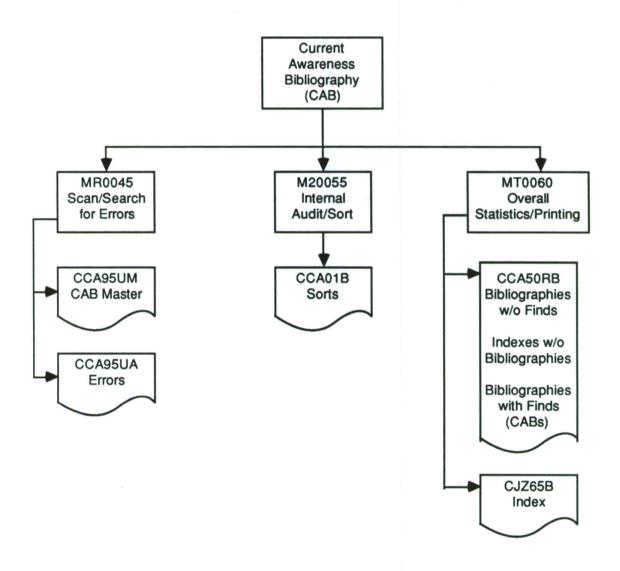
d. Current System Deficiencies

- 1. The users receive the bibliographies only on paper and without cumulative indices.
- 2. The research data cannot be readily entered into a database or other electronic format for cross-referencing, sorting, indexing, or searching.

The following pages have the Existing System Hierarchy Chart, and the Existing System I/O chart. Some information may be sketchy or omitted; these sections will be expanded in the system specification.

Current Awareness Bibliography Existing System Hierarchy

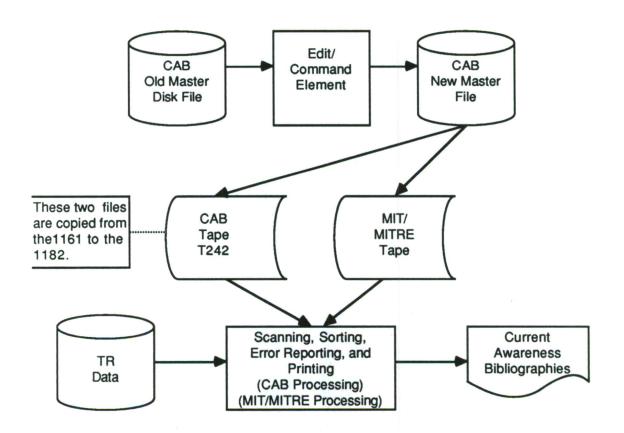
Functional Description
19 Aug 88
Current Awareness Bibliography (CAB) on Diskette
2.3 Existing Methods and Procedures
Existing System Hierarchy Chart



The MIT/MITRE system, a separate run of the CAB system, has the same format as above, except that the input tape is the MIT/MITRE tape, and the Overall Statistics process is numbered MT0065.

Current Awareness Bibliography Existing System I/O Chart

Functional Description
19 Aug 88
Current Awareness Bibliography (CAB) on Diskette
2.3 Existing Methods and Procedures
Existing System I/O Chart



2.4 PROPOSED METHODS AND PROCEDURES

The feasibility of producing Current Awareness Bibliographies on diskette as well as in hard copy will be tested through development of a prototype CAB on Diskette system (see Appendix C). In preparation for prototype development, a CAB User Needs Assessment was mailed to CAB users to survey their requirements and compile a list of users interested in participating in the prototype.

The prototype CAB on Diskette system will provide CAB users with an enhancement to the existing hard copy CAB system. All capabilities currently available with the existing system will continue to be available. The additional capability to produce CABs on diskette will be incoporated into the current system. This addition will require changes in the existing CAB mainframe software to implement sending CAB output to diskette.

Since CAB User Needs Assessment respondents interested in participating in the prototype CAB on Diskette numbered 206, it is expected that a significant percentage of current CAB production will be output to diskette when the system is marketed and becomes operational. CAB on Diskette prototype participation will be limited to four users chosen from the CAB User Needs Assessment respondents interested in participating in the prototype. It is proposed that the system design include a a separate run for CAB on Diskette just as a separate run is now utilized for MIT/MITRE with the existing system. Adding a separate run for the CAB on Diskette will minimize impact on current hard copy CAB production and will facilitate clearer determination of the resources required for CAB on Diskette production.

Since CAB on Diskette will be a microcomputer-based product, current CAB hardware and software will be supplemented by microcomputer hardware and software. The microcomputer hardware utilized will correspond to the hardware available to the majority of current CAB users as specified in responses to the "CAB User Needs Assessment."

Potential CAB on Diskette retrieval software will be identified through a market analysis update that will include the following procedures:

- 1. Review of vendor literature and documentation
- Product demonstrations
- 3. Discussions with current users

Software, identified through the market analysis as likely to meet CAB requirements, will undergo a preliminary selection process. This selection process will include testing the software against a list of evaluation criteria, including those software capabilities desired by the majority of survey respondents who answered the software capabilities section. Features common to all robust software will also be included in the selection criteria. Software requirements identified through the survey are presented in subsection f of Section 3.1, Specific Performance Requirements.

As a result of the preliminary selection process, several information storage and retrieval software packages will be procured for preliminary testing

at the DAITC in order to validate claimed capabilities. A report presenting the results of the testing and recommending a software package will be delivered to the DTIC project officer, along with a demonstration of the software package. The software recommended must meet requirements outlined in Section 3.1 and allow manipulation of CAB data on diskette by CAB on Diskette users.

The CAB data that is output to diskette by the system will be output in a format usable with the selected retrieval software. A batch file will be provided by the contractor recommending the software to facilitate the appending of data by CAB users to their local microcomputer CAB database with each CAB issue. A facility will be provided to allow users to implement the classification and availability changes contained in the quarterly Automated Technical Abstract Bulletin Notes (ATN) to the data maintained in their local microcomputer CAB database. The CAB users may then accumulate CABs over long periods for continued reference utilizing online storage with rapid access via information search and retrieval software. The recommended software will be compatible with WORM technology to allow storage of massive amounts of accumulated data. Magnetic storage will also be supported. The retrieval software recommended will be an off-the-shelf product readily available for purchase by CAB users.

The DTIC project officer will review the software recommendation and reject or select the software for use with the CAB on Diskette system. Selected software will be be procured by a government appointed contractor for use in CAB on Diskette prototype development.

The final stage of the prototype development process will include actual CAB on diskette database design, development, and test and evaluation. The DTIC project officer will select users to participate in the test of the prototype from the pool of potential participants identified through the survey.

Training will be provided for the DTIC project officer, DTIC-Z participants, and the CAB user prototype test participants. Complete user and system documentation will be developed. User support will be provided as necessary and documented. After the prototype test, a written evaluation of the prototype, including recommendations for changes and enhancements, will be delivered to the DTIC project officer.

2.4.1 SUMMARY OF IMPROVEMENTS

The following benefits will be obtained from the proposed CAB on diskette system:

- (a) CAB on Diskette users will receive Current Awareness Bibliographies on diskette. The diskette distribution media will enable loading of CAB information onto user-site microcomputers.
- (b) The new CAB on Diskette product will include recommended information storage and retrieval software to provide users with a means of accumulating CABs, further refining searches, creating ad hoc reports and bibliographies, and tracking DoD-funded research in selected areas.
- (c) The availabilility of accumulated CAB information to the busy researcher or information specialist should eliminate the need for downloading information from the TR database in his or her area of interest.

2.4.2 SUMMARY OF IMPACTS

The proposed CAB on Diskette System is expected to have the following impacts:

2.4.2.1 EQUIPMENT IMPACTS

The proposed system will require the same equipment as the current system. In addition, microcomputer equipment will be procured for evaluators of the CAB on Diskette prototype. Responses to the CAB User Needs Assessment indicated that the IBM Personal Computer and compatibles are the most widely used personal computers in the CAB user community. Thus, the following personal computer equipment configuration will be procured in support of the CAB on Diskette prototype:

Advance (Zenith 248)
80287 math co-processor
RGB color monitor
Dot matrix printer
Mouse
Hard disk
Floppy disk
Internal 2400 baud modem
ISI 525 WC WORM drive

An autoloader will be procured for DTIC-Z to facilitate output of CAB data to diskettes.

2.4.2.2 SOFTWARE IMPACTS

Additional mainframe software will be required to output the data in packed format. The system specification for CAB on Diskette will indicate whether or not the CAB on Diskette output data will be required in packed format.

Modifications to the existing CAB mainframe software will be required to output the CAB information to diskette. The profile software must be modified to flag those profiles that require Current Awareness Bibliographies output to diskette. Current CAB output programs must be modified to recognize the new "flag," and implement the output to diskette function.

Personal computer information storage and retrieval software will be selected and procured by DTIC to provide the CAB data manipulation capabilities most requested by CAB users. Licensing arrangements and other vendor-approved methods of distributing software to prototype participants will be explored as desirable alternatives to purchasing multiple copies of the selected software package. DTIC will retain the right to copy and distribute all personal computer software developed at the DAITC. At a minimum, personal computer batch files will be developed to facilitate the accumulation of CAB data in the local database by CAB users.

2.4.2.3 ORGANIZATIONAL IMPACTS

Current DTIC staff involved in CAB production will maintain the same responsibilities. Staff from DTIC-EA, DTIC-B, DTIC-F, DTIC-HAR, and DTIC-Z will contribute to the production of CAB on Diskette. Project administration will be provided by DTIC-EA. The Office of User Services and Marketing, DTIC-B, will handle marketing considerations. A DTIC committee composed of representatives from B, L, E, and A will address pricing issues. DTIC-Z will implement the CAB special program modifications to enable output to diskette. Once the product is operational, it will be turned over to DTIC-HAR for program management and to DTIC-Z for operation and maintenance.

2.4.2.4 OPERATIONAL IMPACTS

The current CAB semimonthly cycle will remain in place. The timeliness of the CAB on Diskette data will match the timeliness of hard copy CAB data. CAB operational procedures will remain essentially the same. The CAB on Diskette run will be added to the CAB and MIT/MITRE runs to minimize impact on the current CAB production system.

2.4.2.5 DEVELOPMENT IMPACTS

DTIC will provide manpower to modify the existing CAB mainframe programs to enable CAB output to diskette.

2.4.2.6 OTHER IMPACTS

User-level documentation for the CAB on Diskette system will be provided by a government selected contractor. Microcomputer system level documentation for the CAB on Diskette system will be provided by a government selected contractor. DTIC CAB documentation will be modified by the appropriate DTIC offices and/or directorates to include the system changes necessitated by the addition of the CAB on Diskette capability.

2.5 ASSUMPTIONS AND CONSTRAINTS

- a. The assumption is made that CAB data will be available in American Standard Code for Information Interchange (ASCII) format.
- b. Since IBM PC and compatible users represent the largest percentage of CAB User Needs Assessment respondents, the CAB on Diskette system will be designed for the IBM PC and compatible family of microcomputers. This limitation makes the proposed CAB on Diskette unavailable to users of other microcomputers who expressed interest in receiving CAB data on diskettes. The possibility of eliminating this constraint through expanding

CAB on Diskette distribution to include other microcomputer systems at a later date will be evaluated by DTIC.

c. The assumption is made that an autoloader or other similar mechanical device will be procured to facilitate the production of CAB diskettes at DTIC for the operational system.

Autoloaders are hardware devices that can be purchased as stand-alone devices, peripherals, or as part of diskette duplication systems. Autoloaders and accompanying software were devised to meet the requirements of the microcomputer software industry in supplying the capability to bulk load diskettes for duplication purposes. Typically, blank diskettes are stored in a loading bin that automatically feeds the autoloader copy drive. The autoloader may be treated as a peripheral to the host microcomputer system enabling software selection of multiple master files stored on the microcomputer hard disk for job streaming of the "copy to diskette" process. This autoloader application is the one that has the most applicability to the needs of the proposed CAB on Diskette system. The operational speed and the size of the loading bin vary with model and vendor.

SECTION 3 DETAILED CHARACTERISTICS

3.1 SPECIFIC PERFORMANCE REQUIREMENTS

This section presents a delineation of system requirements. A requirements analysis was conducted in a non-traditional fashion for CAB on Diskette due to the large number of CAB users and their great geographical diversity. To define CAB user needs, a CAB User Needs Assessment was designed and mailed to CAB users on July 11 (CAB cycle 17). The CAB User Needs Assessment was printed on noticeable tan paper and included in the Current Awareness Bibliography packet. A copy of the CAB User Needs Assessment as mailed to end users appears in Appendix C.

The CAB User Needs Assessment surveyed the CAB users to determine the microcomputer hardware and software that they had available. Information as to how they used hard copy CABs was gathered, along with user preferences for capabilities available with information search and retrieval software. An occupation fill-in was included in the survey to determine whether the CAB User Needs Assessment respondent was an information specialist or a CAB end user. Information specialists were considered to be intermediaries. All other occupations were tallied as end users. Of 312 occupation respondents, 51 were information specialists. The remaining 261 were end users. Of 337 CAB survey respondents, 206 were interested in participating in the CAB on Diskette prototype.

An overview of the requirements presented by the users through the CAB User Needs Assessment is presented in the paragraphs below. The specific numbers upon which this requirements overview is based may be perused in Appendix B, Current Awareness Bibliography User Needs Assessment Summary.

- a. IBM personal computers and compatible equipment must be supported. Of 337 respondents, 261 regularly used IBM PC and compatible equipment.
- b. Memory required by the selected IBM PC and compatible search and retrieval software must be kept to a minimum. Most respondents indicated that they had at least 512K of RAM. However, 71 percent of the PC users indicated that they owned one or more memory resident software packages or peripherals with memory resident drivers, thus reducing the amount of RAM actually available for use on their systems.
- c. The selected search and retrieval software should be usable with DOS version 3.0 or above. Only 16 of 212 respondents were using earlier versions of DOS.
- d. The selected search and retrieval software must support a variety of printers. Epson dot matrix printers and HP Laserjet printers were owned by the greatest number of CAB users.
- e. Commonly available IBM PC and compatible graphics adapters must be supported. Sixty-two percent of respondents specified that they had either EGA or CGA or compatible graphics adaptors.

f. The search and retrieval software capabilities required by the greatest number of respondents are presented below. Respondents were allowed to check as many choices as desired. Choices within the three categories below are presented in descending order according to frequency chosen.

Search properties:

- (1) Boolean
- (2) Controlled vocabulary
- (3) Search on any field
- (4) Wild card
- (5) Free-text

Display formats:

- (1) Display with abstracts
- (2) Display any field
- (3) Page scroll
- (4) Number of Documents per hit
- (5) Display without abstracts

Output capabilities:

- (1) Transfer to printer
- (2) Transfer to disk
- (3) Sorts
- (4) Combine multiple searches
- (5) Transfer to word processor.
- g. Support of the transfer to word processor feature requires that selected retrieval software include the ability to transfer data to commonly used word processors. Forty-three percent of respondents were using either Word Perfect or Wordstar.

The remaining objectives are taken from the CAB on Diskette Project Implementation Plan, Appendix A.

- h. Be able to interface with the TR Database to the extent that data from the TR Database can be downloaded and appended by the user to the local database. The capability to interface with the TR Database on CD-ROM will be dependent upon the retrieval software chosen for the CD-ROM product.
- i. Provide output in the form of hardcopy bibliographies (see Appendix F).
- j. CAB data on diskette must be easily appendable to a local cumulative database on either hard disk or optical media (WORM drive). Communications software will be recommended to facilitate uploading of CAB data to the DoD Gateway Information System (DGIS).
- Resemble the TR Database in terms of field names and canned display formats (see Appendix F) unless a change is approved by the DTIC project officer.

- I. Provide for storage and retrieval information by field, proximity searching, free-text searching, use of wild cards, and storage of profiles.
- m. Be able to store profiles that can be run against the cumulative database or the data on the update floppy diskette.

3.1.1 ACCURACY REQUIREMENTS

The same accuracy requirements utilized for the hard copy CAB system will be utilized for CAB on Diskette.

3.1.2 **TIMING**

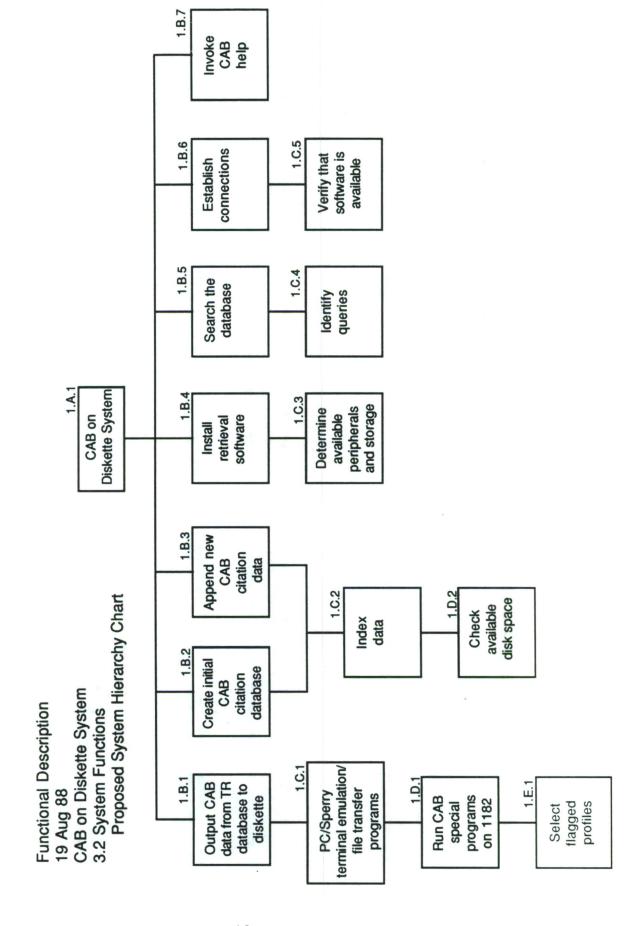
Timing requirements utilized for the hard copy CAB system will also be utilized for CAB on Diskette.

3.2 SYSTEM FUNCTIONS

The requirements specified above in Section 3.1 will be used in the selection of hardware and software to support the CAB on Diskette system. Until the selection of the information search and retrieval software is accomplished, complete hierarchical inter-relationships of CAB on Diskette system components will not be known. Upon retrieval software selection, subsystem function charts will be created to include design requirements imposed by the choice of retrieval software.

Thus, the CAB on Diskette System Hierarchy Chart included in this section presents only major functions now expected to be integral to the CAB on Diskette system. System function descriptions for the high-level hierarchy chart appear in Appendix G.

CAB on Diskette Proposed System Hierarchy Chart



3.3 INPUTS - OUTPUTS

The Process Input - Output Table verbally tracks the flow of data through the proposed CAB on Diskette system. Only high-level data I/O is presented.

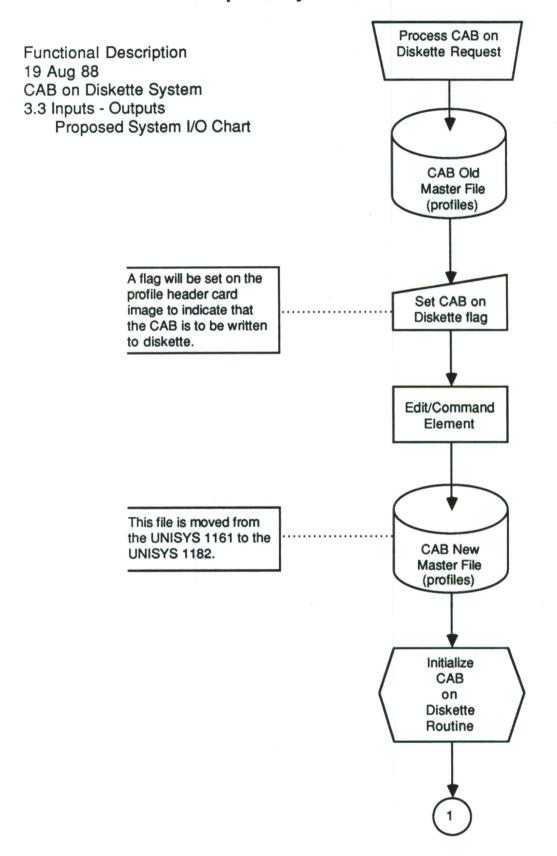
Process - Input - Output Table

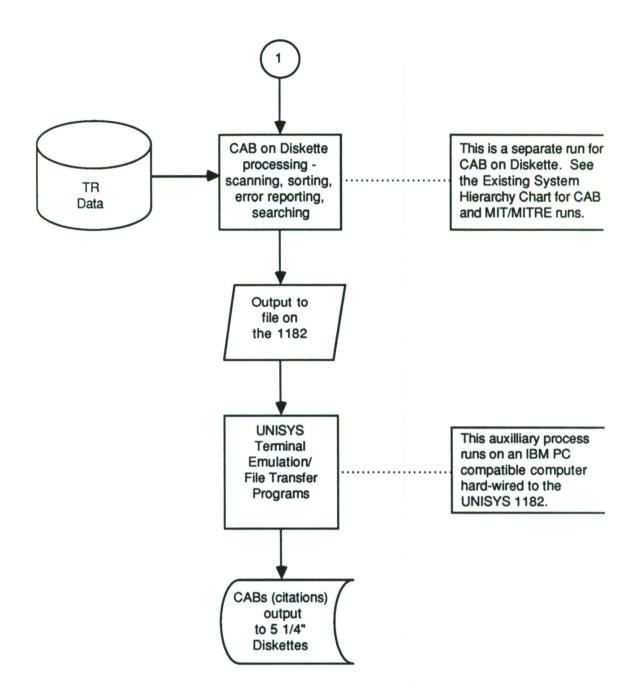
Reference #	Process Block	Input Data	Output Data
1.E.1	Select flagged profiles	CAB new master	Extracted CAB on Diskette new master profiles
1.D.1	Run CAB on Diskette special programs	CAB old master	CAB new master
1.C.1	PC Sperry terminal emulation and file transfer programs	CABs (1182)	CABs tranferred to PC (diskette)
1.B.2	Create initial PC CAB database	Individual CAB on Diskette	Indexed, searchable CAB database
1.B.3	Append new CAB data	Individual CAB on Diskette	Updated personal CAB database
1.B.5	Search the database	User query	Display of query results; Stored query results; Printed query results.

A hard copy CAB appears in Appendix F. At a minimum, search results must provide comparable levels of information, although greater capability is expected. Precise functional capabilities will be determined by the information search and retrieval software selected.

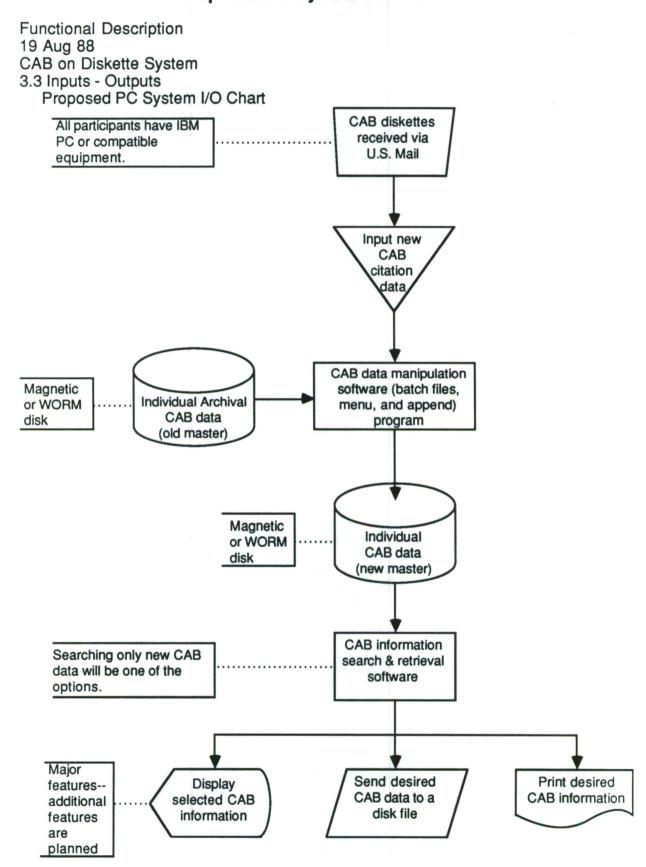
The charts that follow are included to pictorially show the flow of data through the proposed CAB on Diskette system using an input flow/output format. The CAB on Diskette System I/O Chart illustrates the high-level changes on the mainframe system anticipated to support the proposed CAB on Diskette system. The CAB on Diskette PC System I/O Chart illustrates the flow of data for the proposed CAB on Diskette PC system component. Both charts will be refined as the system design progresses.

CAB on Diskette Proposed System I/O Chart





CAB on Diskette Proposed PC System I/O Chart



3.4 DATA CHARACTERISTICS

CAB data used for the mainframe component of the CAB on Diskette system will require essentially the same amount of storage as used for the current system. Implementation of a CAB on Diskette capability adds an enhancement to the current CAB system by providing output of CAB data to diskette. The addition of a one byte flag to the profile header card image of each CAB on Diskette participant is anticipated. This one byte change will have a negligible effect on storage space required.

Current CABs have an average individual size of 41.07 records (no hit profiles not included). The average individual CAB size with the no hit profiles included is 34.07 records. Each record has an average size of 1620 bytes. This yields an average CAB size of approximately 66 kilobytes. Thus, the average CAB will easily fit on one PC diskette. The largest CAB sent (CAB Cycle 17) was 1235 records in length. This yields a CAB Cycle 17 largest CAB size of approximately 2 megabytes. The maximum size of a CAB will vary, and could represent a fewer or greater number of records in future cycles. Alternative overflow handling techniques will be explained in greater detail in the system specification.

IBM PC formatted floppy diskettes (5 1/4") vary in capacity from 360K (double density) to 1.2 megabytes (quad density). To avoid the necessity for mailing many diskettes to CAB users with large bibliographies, the possibility of packing the CAB output data is being discussed with DTIC-Z. PC software to automatically unpack the data for the CAB on Diskette user would then be mandatory. The question of packing the data for mailing will be discussed in greater detail in the CAB on Diskette System Specification.

Storage on a local CAB user's system is not likely to be available to handle biweekly input of CABs in the size range of 2 megabytes or more. Thus, the WORM drive storage alternative is being planned for these large CAB users. Delivery of 26 CABs per year will require in the vicinity of 52 megabytes of storage for individuals whose profiles routinely yield large CABs. This capacity is available through use of optical disk technology. WORM technology provides the required update capability. Adequate archival storage is expected to be available through use of the small 5.25" WORM disks. Due to the lack of standards in the WORM drive area, use of a particular drive must be recommended to large CAB users to assure software compatibility. The ISI 525 WC, providing 115 megabytes of storage per media side, is currently being evaluated for use with the CAB on Diskette system.

More details on storage requirements and the characteristics of CAB data including data elements and number of characters per data element included in each record will be provided in the CAB on Diskette System Specification.

3.5 FAILURE CONTINGENCIES

The proposed prototype CAB on Diskette system will be an addition to the existing CAB system that will provide an alternative form of output. The failure contingencies in place for the current hard copy CAB production system will remain in place. The prototype CAB on Diskette will be run in parallel with the hard copy system. An isolated failure in any part of the CAB on Diskette production system will necessitate a return to the hard copy CAB until recovery takes place.

SECTION 4 ENVIRONMENT

4.1 EQUIPMENT ENVIRONMENT

The equipment required for hard copy CAB production will also be utilized in CAB on Diskette production. See Section 2.3, Existing Methods and Procedures, for a discussion of hard copy CAB production procedures.

The following microcomputer equipment will be utilized in the CAB on Diskette prototype.

	Equipment	Number	Additional Information
a.	Microcomputer system: Advance Zenith 248 80287 math co-processor RGB color monitor Dot matrix printer (ALPS) Mouse	5	Four of these systems will be utilized in the field by prototype participants. One system will be utilized by the contractor developing the prototype.
b.	Storage Devices: ISI 525 WC WORM Drive	5	WORM drive utilization will provide storage for far greater amounts of cumulated
	Hard Disk Drive Floppy Disk Drive	5 5	CAB data. Input CAB data.
c.	Other Equipment: Surge Protector	5	Prevent electrical spike damage to equipment.
	Internal 2400 Baud Modem	5	Communications.

The equipment listed above is provided during the identification phase to present an overview of expected equipment needs for CAB on Diskette through prototype development. The operational CAB on Diskette is expected to require additional equipment at DTIC such as a diskette autoloader. Equipment data will be further refined and finalized during the Diskette.

4.2 SUPPORT SOFTWARE ENVIRONMENT

The support software information gathered during the requirements identification phase is for general planning purposes and is not intended to be specific. Detailed support software requirements will be developed during the design phase and presented in the CAB on Diskette System Specification.

Support Software	<u>Description</u>
Profile software	Need modification to flag that CAB is to go to diskette
CAB special programs	Need modification to send output from flagged profiles to diskette.

4.3 INTERFACES

The interface information available during the design phase is for general planning purposes and is not intended to be specific. Detailed interface information will be presented in the CAB on Diskette System Specification. DLA Form 1554 will be utilized in the system specification.

4.3.1 EXTERNAL INTERFACES

This section covers planned CAB on Diskette interfaces with other systems and subsystems.

Interfacing Element	Requirements	Method of Data Exchange
TR Database	TBD	Telecommunications
CD-ROM TR Database	Dependent upon availability of CD-ROM and indices used.	CD-ROM drive is assumed to be a peripheral on system utilizing CAB on Diskette (feasibility of providing software compatible with the CD-ROM database is to be assessed).

4.3.2 INTERNAL INTERFACES

This section covers planned CAB on Diskette interfaces internal to the CAB on Diskette system.

Interfacing Element	<u>Requirements</u>	Method of Data Exchange
Existing CAB System (DTIC-Z)	Provide CAB data in ASCII format.	Floppy Diskette.
PC WORM drive	Automate accumulation and access of data on this peripheral.	Peripheral access will utilize device driver software. Automated accumulation of CAB data will require MS-DOS batch (.bat) file.
PC Magnetic disk	Automate accumulation and access of data on this peripheral.	Peripheral access will utilize device driver software. Automated accumulation of CAB data will require MS-DOS batch (.bat) file.

4.4 SECURITY AND PRIVACY

CAB on Diskette will be a profile-based unclassified system.

SECTION 5 COST FACTORS

5.1 COST FACTORS

CAB on Diskette project costs will be spread over several budget years. DTIC resources required through fiscal year 91 are estimated below on a personpower per milestone basis:

Milestone	DTIC- PO/0		DTIC-B	DTIC-F	DTIC-HAR	DTIC-Z	Contractor
1 2 3 4 5 6 7 8	24/ 24/ 40/ 24/ 16/	8 8 8 8			24 16 16 8		80 120 120 120 208
8	24						24
9 10 11 12 13	80/ 24 24 8 8	16				360	120 40 40
14 15 16 17 18	8 8 8 8 8					40 16	40 40 40 40 40 296 24
20 21 22 23	24 24 160/ 160	24			24 24 80	24	120
24 25 26 27 28 29 30 31 32 33 34 35	8 8 80/ 40/ 40/ 24/ 16/ 24/ 16 80/	24 8 8 4 2 4	24 24 80 120	40 24	40 24 24 16 16 16 40	24 120 24 8 40	8 24
TOTAL	1,072/	146	248	64	368	680	1504

TOTAL DTIC HOURS:	2,578
TOTAL CONTRACTOR HOURS:	1,504
TOTAL FOR PROJECT:	4,082

b. Other Resources - The following funds have been requested for FYs 88-89 for contractor support and equipment:

	Contractor Support	Equipment
FY88	\$59.8K	
FY89	120K	25K
FY90		25K

Costing considerations include a study of the relative expenditure required to produce and mail the current hard copy CABs versus the production and mailing cost of the proposed CAB on Diskette. Data in this area will be gathered during prototype testing.

Although the hard copy CAB is provided as a free service, the CAB on Diskette will be priced according to production and mailing costs. The benefit and cost-savings to be realized by end-users of the proposed CAB on Diskette must not be ignored. See Section 2.4.1, "Summary of Improvements" to review the benefits of the proposed CAB on Diskette system.

SECTION 6 SYSTEM DEVELOPMENT PLAN

6.1 SYSTEM DEVELOPMENT PLAN

This section presents the developmental milestones integral to successful completion of the CAB on Diskette system. The detailed schedule of events presented herein is dynamic and is expected to be updated during the development of the system. The CAB on Diskette system development plan corresponds to the overall CAB on Diskette management plan completed by the DTIC project officer.

The CAB on Diskette project schedule follows:

	<u>Milestone</u>	ESD	ECD	Responsible Organization
1.	Development and approval of project statement	25 Apr 88	17 Jun 88	DTIC-EA
2.	Prepare user survey questionnaire	16 May 88	6 Jun 88	CDC
3.	Conduct a survey of CAB/DROLS users	7 Jun 88	19 Aug 88	CDC
4.	Prepare a detailed specification of the system	22 Aug 88	23 Sep 88	CDC
5.	Recommend information storage and retrieval software for testing	22 Aug 88	30 Sep 88	CDC
6.	Test and evaluate information storage and retrieval software	26 Sep 88	28 Oct 88	CDC
7.	Software selection	31 Oct 88	2 Nov 88	DTIC-EA
8.	Software procurement	3 Nov 88	30 Dec 88	TRESP
9.	Submit system change request	28 Nov 89	30 Dec 89	DTIC-EA
10.	Implement system changes	2 Jan 89	2 Jun 89	DTIC-Z
11.	Implement CAB on Diskette database structure	2 Jan 89	2 Jun 89	CDC
12.	Implement CAB on Diskette display formats	2 Jan 89	2 Jun 89	CDC

Milestone	ESD	ECD	Responsible Organization
 Implement CAB on Diskette report formats 	2 Jan 89	2 Jun 89	CDC
 Implement DROLS to CAB on Diskette connection 	2 Jan 89	4 Aug 89	CDC
 Implement CAB on Diskette to WORM connection 	2 Jan 89	4 Aug 89	CDC
 Implement TR Database on CD-ROM to CAB on Diskette connection 	2 Jan 89	4 Aug 89	CDC
 Implement CAB on Diskette on hard disk connection 	2 Jan 89	4 Aug 89	CDC
 Prepare draft documentation for use during the test and evaluation of the prototype 	5 Jun 89	4 Aug 89	CDC
 Obtain permission from the software vendor to copy the software for purposes of the test (or otherwise avoid software licensing infringement) 	5 Jun 89	4 Aug 89	CDC
 Select a group of users to participate in the test and evaluation of the prototype CAB on Diskette 	5 Jun 89	4 Aug 89	DTIC-EA DTIC-HAR
 Select a group of profiles to be used for the test of the prototype CAB on Diskette 	5 Jun 89	4 Aug 89	DTIC-EA DTIC-HAR
22. Test and evaluate the prototype	7 Aug 89	3 Nov 89	CDC DTIC-EA DTIC-HAR DTIC-Z
 Determine the feasibility of CAB on Diskette in an operational environment 	6 Nov 89	29 Dec 89	DTIC-EA
24. Refine system changes	2 Jan 90	2 Feb 90	DTIC-Z

			Responsible
<u>Milestone</u>	ESD	ECD	<u>Organization</u>
 Implement refined system changes 	2 Feb 90	2 May 90	DTIC-Z
Deliver system and user documentation for Z review	2 Apr 90	2 May 90	CDC DTIC-Z
27. Deliver final system and user documentation	2 May 90	2 Jun 90	CDC DTIC-EA DTIC-Z
28. Establish standard operating procedures for production and distribution of CAB on Diskette	2 May 90	2 Jul 90	DTIC-EA DTIC-F DTIC-HAR DTIC-Z
29 Determine whether special mailing materials are required and request them	2 Jul 90	16 Jul 90	DTIC-EA DTIC-F
30. Determine product pricing	2 Jul 90	2 Aug 90	DTIC-B
31. Prepare product announcement	2 Aug 90	2 Sep 90	DTIC-B DTIC-HAR
32. Prepare promotional brochure for the product	2 Aug 90	2 Oct 90	DTIC-B DTIC-HAR
33. Develop a marketing plan for CAB on Diskette	2 Aug 90	2 Nov 90	DTIC-B DTIC-HAR
 Make CAB on Diskette an operational product 	2 Nov 90	2 Feb 91	DTIC-EA
35. Conduct a 6-month product evaluation	2 Feb 91	2 Aug 91	DTIC-EA DTIC-HAR

APPENDICES

Appendix A

Current Awareness Bibliography (CAB) on Diskette Project Implementation Plan

EXECUTIVE SUMMARY

Project Implementation Plan

Current Awareness Bibliography (CAB) On Diskette

Background:

With the advent of the microcomputer and its implications for accessing databases, DTIC is looking for other formats in which to present its data. DTIC users have shown an interest in receiving bibliographic data (from DTIC's Technical Reports (TR) database) in the form of demand bibliographies and current awareness bibliographies (CABs) on diskette. CAB is a profile-based service which keeps researchers informed concerning the latest DoD-funded research in a particular area defined by the CAB user. CAB On Diskette is a new service which will afford the user the ability to further manipulate, reformat, and cummulate the information which is now provided in the hard copy CABs.

2. Technical Approach:

The prototype CAB On Diskette will be developed by Ms. Karen Kaye of Control Data Corporation (CDC) and her assistant. Ms. Kaye will provide project leadership for this effort. CAB On Diskette will be developed on a Zenith 248 or compatible microcomputer system using the information storage and retrieval package recommended in the software evaluation phase of the project. The database will be developed during the time period from Sep 88 to Jan 89. The prototype product will be tested and evaluated, and a recommendation will be provided by Mar 89.

3. Milestones:

1. User needs survey

Aug 88

- 2. Software evaluation, selection, and procurement Dec 88
- 3. Database development, test, and evaluation Mar 89

4. Resources:

- 1. 1100 professional man-hours
- 2. 120 clerical man-hours
- 3. Zenith 248 or compatible microcomputer system, ISI 525

WORM system with WORMTOS operating system, software, and telecommunications support.

4. Project funding provided by Defense Technical Information Center, Office of Information Systems and Technology.

PROJECT IMPLEMENTATION PLAN

DEFENSE APPLIED INFORMATION TECHNOLOGY CENTER

1. TITLE: Current Awareness Bibliography (CAB) On Diskette

2. SPONSOR: Defense Technical Information Center
Office of Information Systems and Technology
Point of Contact: Ms. Carol Jacobson

Technical Information Specialist (202) 274-7661

3. BACKGROUND:

The Defense Technical Information Center (DTIC) is responsible for providing, acquiring, storing, retrieving, disseminating, utilizing, and enhancing scientific and technical information for the Department of Contractors and potential contractors, and other U. S. Government agencies and their contractors. Traditionally, this role has been limited to information in paper copy and microfiche format.

In 1981, DTIC initiated a project to determine the feasibility of accepting various forms of input from participating agencies and providing additional services to these organizations. Four types of input were considered, camera-ready copy of technical reports for primary distribution, microfiche copy of technical reports for secondary distribution, combination hard copy/microfiche technical reports for secondary distribution, and documentless DD forms 1473. At least one example of each type of input was entered into the Technical Reports (TR) Database on the Defense RDT&E OnLine System (DROLS) and further disseminated. Thus, the feasibility of accepting technical reports in the above formats was demonstrated.

With the advent of the microcomputer and its implications for accessing databases, many database producers and distributors are looking for other formats in which to present their data. Some database producers such as BioSciences Information Services are providing their users with current awareness bibliographies on diskettes in recognition of the extensive use of microcomputers for accessing databases. Other database producers and database distributors, such as Public Affairs Information Service, H. W. Wilson Co., BRS Information Technologies, and Dialog Information, are looking to optical media as yet another means of information transfer. These database producers and database distributors are making portions of databases available on CD-ROM and distributing the compact disks to their users. In some cases, database producers are making their databases available on CD-ROM through third party vendors such as SilverPlatter Information, Inc. These third parties vary in the amount of service they provide from simply a subscription

service to a provider of hardware, software, and the subscription service.

Over the past several years, DTIC has received numerous requests to distribute technical information in non-standard forms. In a number of instances, users have shown an interest in receiving bibliographic data, in the form of demand bibliographies as well as current awareness bibliographies (CABs), on diskette. In addition, some users have requested that DTIC provide a portion of its TR Database in a CD-ROM format.

Current Awareness Bibliography Description:

In 1976, DTIC launched its Current Awareness Bibliography (CAB) service in recognition of the difficulty that its users have in keeping current in the diverse, highly specialized research sponsored by the Department of Defense (DoD). CAB is a free service which alerts users to the technical reports on DoD- funded research, in their area of interest, most recently added to the DTIC collection. CAB is a profile-based service. The potential CAB recipient works with a DTIC information retrieval specialist to establish a "profile" which describes the user's interests. The profile is most likely to be a "subject profile." DTIC's computer will match each user's individual profile against the new reports which have arrived at DTIC during the preceding 2-week period. The user will automatically be mailed a bibliography with concise but complete information on the reports which matched his or her profile (see enclosure). The information will include, but not be limited to personal author, corporate author, title, subject terms, and abstract. The user is encouraged to review his or her profile and modify it as needed to insure that the CABs will be of the greatest possible value. The DTIC point of contact for the CAB service is Mr. Thomas Jones, DTIC-HAR, (202) 274-7206, of the DTIC Database Services Directorate. CAB is one of DTIC's more popular services. Currently, 478 DTIC users have active CAB profiles. During a recent CAB cycle, 3,233 CAB profiles were generated.

To request the CAB service, a user need only call DTIC-HAR at (202) 274-7206, write, or use DTIC Form 64, Request for DTIC Database Products.

Proposal:

Given the advancements in technology, the proliferation of microcomputers, and the continuing interest in keeping abreast in the latest information on DoD-funded research, an enhancement to the CAB product is being proposed. The new product will be called CAB on diskette and will afford the CAB user many features which are not available with the print product.

The new product will provide users with a means of cummulating CABs, further refining searches, creating adhoc reports and bibliographies, and tracking DoD-funded research in selected areas. CAB on diskette will be a time saving tool for the busy researcher or information specialist in that it will eliminate the need for

downloading information in his or her area of interest from the TR Database.

This effort will consist of the development of a prototype CAB on diskette. During the development of the prototype, an abbreviated user needs survey will be conducted to determine the hardware/software being used by current CAB users. Information storage and retrieval software which matches user requirements will be selected and procured, and the database will be developed.

4. OBJECTIVE:

The objective is to design, develop, document, test, deliver, and have accepted a microcomputer-based unclassified CAB On Diskette product with retrieval software.

The new CAB On Diskette product would be required to meet the following specifications:

- a. Be able to interface with the TR Database on DROLS to to the extent that data from the TR Database on DROLS can be downloaded and appended by the user to the local database. The capability to interface with the TR Database on CD-ROM will be dependent upon the retrieval software chosen for the CD-ROM product.
- b. Provide output in the form of hard copy bibliographies (See Enclosure 1);
- c. CAB data on diskette must be easily appendable to a local cumulative database on either hard disk or optical media (WORM drive). Communications software will be recommended to facilitate uploading of CAB data to the DoD Gateway Information System.
- d. Resemble the TR Database in terms of field names and canned display formats (See Enclosure 2). Changes in this area must be approved by the DTIC project officer; It should be noted that retrieval software priced toward the higher end of the spectrum is most likely to provide display format flexibility.
- e. Provide for storage and retrieval information by field, proximity searching, free-text searching, use of wild cards, and storage of profiles;
- f. Be able to be used with the Zenith 248, IBM PC/XT, IBM PC/AT, and other compatibles;

g. Be able to store profiles which can be run against the cumulative database or the data on the update floppy diskette (the concept of a user-defined universe is not implied);

5. TECHNICAL APPROACH:

During the prototype phase of this project, the feasibility of expanding CAB from a hard copy service to a hard copy and diskette service will be determined. The development, test, and evaluation of the prototype product will take approximately 11 months ending in March 1989.

The technical approach will consist of the preparation of a functional specification of CAB On Diskette. The results of the user needs survey will be the basis for the development of the functional specification. The functional specification will include a description of the enhanced capabilities provided by the magnetic media. The functional specification will be prepared in accordance with the Life Cycle Management format, and it will require approval by the DTIC project officer.

After the functional specification is accepted, a detailed system specification will be prepared. The system specification will include a description of the desired database design; screen layouts; reports; display formats; as well as connections to the DoD Gateway Information System (DGIS), DROLS, the WORM drive, the hard disk, and the TR Database on CD-ROM. The system specification will also include a listing of the evaluation criteria to be used in the selection of retrieval software. The system specification will be prepared in accordance with the Life Cycle Management format, and it will require approval by the DTIC project officer.

Appropriate information storage and retrieval software will be identified. (1) Prior to recommending software packages to be acquired for review purposes, a market analysis update will be completed. Review of vendor literature and documentation, product demonstrations, and discussions with existing users of software under consideration will be completed as part of the market analysis. Thus, appropriate information storage and retrieval software will be identified. Copies of the software will be acquired for review purposes. The software will be tested and evaluated against the mandatory and desirable characteristics identified in

^{*****}Footnote (1) The number of retrieval software packages to be tested will be determined through the market analysis update, and will require approval by the DTIC project officer prior to procurement and testing. Time estimates included in this document are based upon the test and evaluation of 3 software packages.

the functional specification. The test and evaluation will be based upon actual CAB data. Data conversion will be accomplished prior to testing if necessary. A report describing the results of the test and recommending a software package will be reviewed by the DAITC staff and the DTIC project officer. A demonstration of the recommended software package will be provided for the DTIC project officer.

The final stage of the prototype will include database development, test, and evaluation. Complete user and system documentation for use during prototype test and evaluation will be prepared. Potential users who will be participating in the test of the prototype and the DTIC project officer will need to be trained. After the prototype test, a complete written evaluation, including recommendations for changes to the prototype, will be submitted for approval to the DTIC project officer.

6. DELIVERABLES:

- a. CAB On Diskette Questionnaire 6 Jun 88
- b. CAB On Diskette Functional Specification 8 Aug 88
- c. CAB On Diskette System Specification 16 Sept 88
- d. Synopsis of retrieval software recommended for procurement and test through the market analysis update. 23 Sept 88
- e. Test and Evaluation Report for Software 23 Dec 88

 (This change in date reflects both other project work requiring analyst time as well as planned vacation time for project lead).
- f. CAB On Diskette User Manual TBD
- g. CAB On Diskette System Manual TBD
- h. CAB On Diskette Operations Manual (if deemed necessary)
 TBD
- i. Test and Evaluation Report for the Prototype 17 Mar 89
- j. The contractor must provide training for the DTIC project officer and up to 8 potential users. Training will occur in Alexandria, VA.
- k. The DAITC shall allow for briefings as necessary with the DTIC project officer, to include review of any deliverables due during that time period.
- 1. The DAITC shall provide monthly status reports to the

DTIC project officer.

- m. The DAITC shall advise the DTIC project officer immediately of any problem that may affect the delivery schedule.
- n. The PIP is recognized as a working document, and it is accepted that changes to the document are likely to occur during the life of the project. All changes will require the approval of the DTIC project officer prior to taking effect.
- Deliverables will be initialed by the DTIC project officer upon acceptance.

7. MAJOR MILESTONES:

a. Prepare user survey questionnaire.

Deliverable: CAB On Diskette Questionnaire

Estimated completion date: 6 Jun 88

b. Conduct a survey of CAB/DROLS users.

Deliverable: Report on user community views and contractor recommendations of the mandatory and desirable characteristics of CAB On Diskette (i.e., Functional Specification).

Estimated completion date: 8 Aug 88

c. Prepare a detailed specification of the system.

Deliverable: CAB On Diskette System Specification

Estimated completion date: 16 Sept 88

Recommend appropriate retrieval software for procurement and testing.

Deliverable: Synopsis of retrieval software recommended for procurement and testing as a result of the market analysis update. (Approval of DTIC project officer required prior to initiation of procurement procedures).

Estimated completion date: 23 Sept 88

e. Test and evaluation software package procurement. (This milestone will be accomplished by TRESP).

Deliverable: Copies of the software selected for testing.

Estimated completion date: 30 Sept 88

f. Test and evaluate information storage and retrieval software identified through market analysis update.

Deliverable: Report describing test and evaluation of software and recommendation of the software package to be procured for the prototype. Demonstration of the recommended software for the DTIC project officer.

Estimated completion date: 23 Dec 88

g. Software selection. (This milestone will be accomplished by the DTIC project officer.):

Estimated completion date: 6 Jan 89

ALL SUBSEQUENT DATES TO BE DETERMINED UPON SELECTION OF THE SOFTWARE TO BE USED IN DEVELOPMENT OF THE PROTOTYPE CAB ON DISKETTE.

h. Prototype Software procurement. (This milestone will be accomplished by TRESP.):

Deliverable: Copies of the selected software as necessary for prototype development.

Estimated completion date:

i. Implement CAB On Diskette database structure including required display and report formats.

Estimated completion date:

j. Implement DROLS to CAB On Diskette connection.

Estimated completion date:

k. Implement CAB On Diskette to WORM connection.

Estimated completion date:

1. Implement TR Database on CD-ROM to CAB On Diskette connection.

Estimated completion date: (The completion of this milestone depends on the availability of DTIC's CD-ROM product.)

m. Implement CAB On Diskette to hard disk connection.

Estimated completion date:

n. Prepare draft documentation for use during the test and evaluation of the prototype.

Deliverables: User Manual, System Manual, and Operations Manual (if deemed necessary)

Estimated completion date:

 Obtain permission from the software vendor to copy the software for purposes of the test (or otherwise avoid software licensing infringement).

Estimated completion date:

p. Select a group of users to participate in the test and evaluation of the prototype CAB On Diskette. (This milestone will be accomplished by the DTIC project officer).

Estimated completion date:

q. Select a group of profiles to be used for the test of the prototype CAB On Diskette. (This milestone will be accomplished by the DTIC project officer.)

Estimated completion date:

r. Test and evaluate prototype.

Deliverable: Test and evaluation report for the prototype experience.

Estimated completion date:

s. Train Project Officer and up to 8 potential users.

Deliverable: Training class

L User support.

Deliverable: Ongoing user support as required for the prototype.

8. RESOURCES:

The following are the staffing requirements for the effort through December, 1988; follow-on work will require additional resources:

Staffing: 2 systems analyst/programmers (DBMS) - 1100 professional man-hours

1 technical aid man-hours - 140 clerical

The following are the staffing requirements for the initial five man-month effort; follow-on work will require additional resources:

Staffing: 2 systems analyst/programmers (DBMS) - 480 professional man-hours

1 technical aid man-hours - 90 clerical

Project Funding: Defense Technical Information Center
Office of Information Systems and Technology

Hardware: Zenith 248, IBM PC/XT, IBM PC/AT, or compatible with ISI 525 WORM drive (including access to required manuals)

Software: To be determined

Most retrieval software is currently priced within
the range of \$100. to \$40K with complete
toolkits representing the high end.

Telecommunications: To be determined

Accepted	:

Madys A. Cotter

Gladys A. Cotter

Defense Applied Information Technology Center

Flien V. McCauley

Ellen V. McCauley

Director

Office of Information Systems and Technology

Concurrence:

Carol Jacobson

Carol Jacobson

Technical Information Specialist
Defense Technical Information Center

Mitato Col

Roberta Cohen

Technical Information Specialist
Defense Technical Information Center

William Spanos

Program Manager

Control Data Corporation

ADDENDUM

CAB ON DISKETTE PROFESSIONAL CLERICAL **MILESTONE** HOURS HOURS 10 90 a. User survey 40 130 b. Functional Specification 22 130 c. System Specification 18 d. Rec SW/Mkt. Analysis 130 90 480 e. TRESP procurement 0 50 620 f. T&E Software g. SW Selection 0 50 620 --- PROTOTYPE PHASE--h. TRESP procurement 0

168

128 24

48

16

248

2

0 0

128

48

88

898

1998

48

20

68

208

total

total

i. DBMS Structure

j. DROLS Connection

1. CD-ROM Connection

m. Hard Disk Connection

k. Worm Connection

n. Draft Manuals-3

o. Vendor License p. T&E Users-Carol

q. Profiles-Carol

s. User Training

t. User Support

PROJECT TOTAL

total

r. T&E Report

INDIVIDUAL TASKING BREAKOUTS

PROFESSIONAL

- a. 50 hours survey preparation, 40 hours create, refine survey
- b. Compile survey results, write report
- c. 80 hours system specification design, 50 hours write report
- d. 66 hours sw synopsis, 48 hours demos, review of demo diskettes, 16 hours specification review, info calls to vendors, existing users
- e. TRESP
- f. 60 hours data acquisition issues, meetings/discussion., 120 hours. data conversion, T&E 3 pkgs @ 80 hours each, 60 hours compile results, write report, 140 hours database formats
- g. DTIC Project Officer
- h. TRESP
- i. -t. best guess estimates, will be refined & broken down into specific tasks/required hours at point of software selection

CLERICAL

- a. 10 hours format report
- b. 30 hours input results, miscellaneous, 10 hours format report
- c. format complex report with graphics
- d. 8 hours vendor literature calls, filing literature., 10 hours format report
- e. format lengthy report with graphics & tables

Appendix B

Current Awareness Bibliography (CAB)
User Needs Assessment Summary

Current Awareness Bibliography User Needs Assessment Summary

There were a total of 337 responses to the survey, out of 3500 sent. The numbers listed correspond to the question numbers on the survey.

NOTE: Some totals may not correspond to the sum of the entries because the total was the number of respondents who checked the box but did not list a specific item. For example, someone may have checked 'Mouse' but did not give the brand of mouse.

2. Occupations - 312 responses:

Occupation	Total
Engineer	115
Information Specialist	51
Chemist/Physicist	27
Analyst	21
Other	124

3. Usage - Respondents checked more than one box:

Reason	Total
Check for new developments in an area of interest	312
Check for new scientific developments	260
Circulate to others	109
Identify fellow researchers	85
Track the progress of a contract	31
Check for duplication	28
Track the progress of an agency	19
Other	26

Six of the other responses were bibliography-related.

4. Microcomputers:

Although the questionnaire asked for the microcomputer system that was used most often, 75 respondents checked more than one computer.

Computer	Total
IBM PC compatible	261
Apple Macintosh	73
Other	12

5. RAM - 224 responses:

Memory	Total	Memory	Total
640K	96	512K	29
1 Meg.	48	Other	95

Other responses ranged from "?" to 80 Megabytes.

6. Peripherals:

	Printe	rs	
Brand	Total	Brand	Total
Draft	188	Letter	123
Epson	61	Epson	23
ALPS	23	ALPS	18
Apple	16	Apple	8
IBM	16	Diablo	8
Okidata	12	IBM	6
HP	5	HP	6
Panasonic	5	Other	45
Other	38		
Laser	163		
HP	64		
Apple	46		
Other	36		

309 respondents had access to a printer.

Mice		Modems	3
Brand	Total	Brand	Total
Total	148	Total	151
Macintosh	41	Hayes	75
Microsoft	35	Racal-Vadic	11
Logitech	25	Other	49
PC Mouse	5		
Other	26		

CD-RO	М	WORM	
Brand	Total	Brand	Total
Total	13	Total	2
Hitachi	5	Commodore	2
Apple	4		
Philips	3		7
Amdek	1		
Interdyne	1		

Other peripherals included disk drives, plotters, and Bernoulli boxes.

7. Graphics - 317 responses:

Type	Total	Туре	Total
EGA	126	VGA	24
CGA	72	Didn't know	33
HGC	42	Other	20

Eleven of the other responses were Apple Macintosh.

8. Fixed Disks - 240 responses:

Size	Total	Size	Total
10-20 Meg.	176	70-80 Meg.	8
30-40 Meg.	74	Greater than 80 Meg.	14
50-60 Meg.	11		

9. IBM or compatible software:

Database - 233 responses:

Туре	Total
dBASE	118
Enable	17
Other	98

File Transfer - 134 responses:

Program	Total
Kermit	29
PROCOMM	11
Other	98

DOS Front-end - 219 responses:

Program	Total	Program	Total
Microsoft Windows	68	WindowDOS	9
Sidekick	59	Fixed Disk Organizer	7
DOSshell	18	Spotlight	1
1dir	16	The Desk Organizer	1
GEM	14	Top View	0
Direc-Tree	9	Other	40

CD-ROM subscriptions - 13 responses (one of each)

BIP Hitachi CD-Bibliofile Hydrodata

Hitachi CD-ROM Reader

OCLC PC Tools

Bookshelf (3)

NDS

PAIS

Census PCBSS

NTIS (Dialog)

Ulrichs

Word Processing - 355 responses:

Program	Total	Program	Total
Word Perfect	92	Display Write	5
Wordstar	62	Samna	4
Multimate	41	Perfect Writer	2
Microsoft Word	37	Other	91
PC-Write	21		

Eighteen of the others responses were Enable.

Telecommunications - 217 responses:

Program	Total	Program	Total
Crosstalk	53	PC-Talk	12
PROCOMM	43	Q-Modem	6
Smartcom	39	Other	64

Among the other responses there were eight Kermit and nine Enable answers.

DOS Version - 212 responses:

Version	Total	Version	Total	Version	Total	Version	Total
1.20	1	2.12	1	3.01	1	3.26	1
2.00	3	2.2	1	3.10	49	3.30	31
2.10	6	2.30	1	3.20	81	3.31	4
2.11	3	3.0	16	3.21	10	4.00	1

Other software - 152 responses (some multiple). Of those responses, Lotus appeared 45 times.

10. Computer communications networks - 183 responses:

Network	Total
Ethernet	55
Apple	35
Other	107

Eighty-nine respondents were planning to network within the next 12 months.

11. Planning to buy software and hardware - 163 responses.

Most of the respondents were planning to buy Macintoshes or IBM PC compatible computers.

12. Had used other bibliographic databases - 124 respondents, multiple answers.

Database	Total
Dialog	66
NASA	16
Other	115

13. Interested in the prototype testing - 206.

Forty-four of those respondents are from Maryland, Washington DC, or Virginia.

14. Database properties - 225 respondents answered this section.

	Search	Properties	
Property	Total	Property	Total
Boolean (and, or, not)	165	Synonyms (auto query expansion)	82
Controlled vocabulary (keyword)	151	Adjacency	70
Any field	135	Proximity	62
Wild card	123	Natural language	57
Free-text	115	Hypertext	38
Save and re-execute queries	106	Log retrieval responses	35
Range	83	Point and shoot query entires	22

Display Formats						
Property	Total	Property	Total			
Ability to display citations with abstracts	182	Keyword list displayed	109			
Page scroll (up and down)	165	Record by record	100			
Ability to display any field	163	User-defined display format	92			
Number of documents per hit	140	Hits highlighted	76			
Ability to display citations without abstracts	127	Number of hits per document	64			
Keyword displayed in context	114	Field by field	51			

A STATE OF

Output Capabilities					
Property	Total	Property	Total		
Transfer to printer	178	Transfer to a database	105		
Transfer to disk	169	Custom report forms	93		
Combine results of multiple searches	142	Transfer to spreadsheet	40		
Sorts (record, field, values in field)	141	Stack hits	27		
Transfer to word processor	107	Transfer to WORM	9		

Appendix C

Current Awareness Bibliography (CAB) User Needs Assessment

(survey document)

CURRENT AWARENESS BIBLIOGRAPHY USER NEEDS ASSESSMENT

The Defense Technical Information Center is in the process of determining the feasibility of providing Current Awareness Bibliographies (CABs) on diskettes as well as in hard copy. To help us better understand your needs, please complete the questionnaire below and mail by July 15, 1988. If you have any questions about the questionnaire or about the proposed product, contact Ms. Carol Jacobson, (202) 274-7661 or AUTOVON: 284-7661.

1.	DTIC user code:	2. Occupation:		
3.	How do you use the informati (Please check all that apply.)	on provided in your Current Awareness	Bibliography?	
	☐ Check for duplication			
	☐ Check for new developments	s in the scienfific and technical community		
	☐ Check for new developments			
	☐ Identify fellow researchers			
	☐ Track progress of a contract			
	☐ Track progress of a particular	agency		
	☐ Circulate to colleagues			
	Other	list		
		liot.		
4.		e box and list the make and model of the		
	Apple	Hewlett Packard	□ ІВМ	makatmodol
	Atari	Commodore	☐ Zenith	
	make/model	make/model	_ Zerman	make/model
	Compaq	Other IBM Clone	Other Micro	make/model
5.	Places enter the amount of P	andom Access Memory (RAM) that you I	navo available on	VOLLE
3.		andom Access Memory (NAM) that you i		your
6.	Microcomputer peripherals:			
	☐ Draft quality printer			
		brand		
	Letter quality printer	brand		45 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	☐ Laser printer	发展的意思是是一种自己的一种特别		
	□ Mouse	brand		
	_ Mouse	brand		
	□ Modem	make/model	EXHIBITION !	
	CD-ROM (Compact Disc	Read-Only Memory) drive		
		make/model	STATE OF THE PARTY	
	☐ WORM (Write Once Read	Mostly) drive make/model	Plant and the last	THE REAL PROPERTY.
	Other			
	The state of the s	Ent.		The second second second second

7	If you have graphics capability, ple	ase check all of	the following	ng t	hat apply:			
	☐ Color Graphics Adapter (CGA)or E	mulation	☐ Video	Gra	phics Array (VG	A) or Emula	ition	
	☐ Enhanced Graphics Adapter (EGA) or Emulation		□ Don't know					
	Hercules Graphics Card (HGC) or E							
	— Flercules Grapfillos Gald (FlGG) of E	indiation	- Other	150		list		
3.	If your microcomputer has a fixed disk, indicate the size of the hard disk.							
	□ 10-20 MB	□ 50-60 MB			Greater than 80	MB		
	□ 30-40 MB							
		, , , , , , , , , , , , , , , , , , , ,						
f ve	ou checked IBM, Compaq, Zenith, or	r IBM clone in a	uestion #4	ple	ease answer di	uestion #9	about voi	
	ware. If you do not have an IBM or					acoaon #0	about you	
A	The state of the s	CENTER STATE					10 mg	
9.	IBM or compatible software:							
	Database		rand	100			The state of the s	
	☐ File transfer							
		D	rand					
	☐ Text search	b	rand					
	DOS front end, desktop manager o	r windows (Pleas	e check all ti	hat a	apply.)			
	□ 1dir	☐ GEM		_	The Desk Orga	nizer		
		☐ Microsoft W	/indows	1	TopView			
	DOSshell	☐ Sidekick		-	WindowDOS			
	☐ Fixed Disk Organizer			100	Other			
						list		
	☐ CD-ROM discs/subscriptions				list			
	☐ Word processing (Please check a	nnronriate box \						
	DisplayWrite	THE RESERVE OF THE PARTY OF THE			WordPerfect			
	☐ Microsoft Word		or	Name .	WordStar			
	□ MultiMate	Samna			Other			
	— Multimate	— Saililla			Other	list		
	☐ Telecommunications software (Ple	ease check approp	oriate box.)					
	☐ CrossTalk	Procom			Smartcom			
	☐ PC-Talk	Q-Modem			Other	學的	500	
						list		
	□ Version of MS-DOS		list					
	☐ Other often used software							
			list					
	10年1月1日 - 10日 - 1				有是 《新春》			
10.	Do any computers at your site com					□Yes	□ No	
	If yes, what type of network do you	have?	enter aspresant	NAME OF THE PARTY	list name	PARTICIPATION OF STREET		
	Plans to network in next 12 months	3?				☐ Yes	□ No	

11.	Do you plan on buying new hardware and/or If yes, what kind of hardware and/or software?	software in the coming year?	☐ Yes	□ N
12.	Do you use other bibliographic databases? If yes, which other databases do you use?		□ Yes	□ N
13.	Would you like to participate in the test of the If yes, please list your name, address, telephone n		☐ Yes	□ N
100	ou are familiar with database searching, pl What search capabilities would you expect from	om this product?	uestions:	
	adjacency	on any field		
	Boolean (and, or, not)	point and shoot query	entry	
	controlled vocabulary (keyword)	proximity		
	free-text	range		
	hypertext (dynamic links)	save and re-execute qu		
	log retrieval responses	synonyms (auto query	expansion)	
	natural language	☐ wild card		
15.	What display formats would you expect?			
	ability to display any field(s)	keyword list displayed		
	ability to display citations with abstracts	number of documents	per hit	
	ability to display citations without abstracts	number of hits per doc	ument	
	☐ field by field	page scrolling (up and	down)	
	hits highlighted	record by record		
	keyword displayed in context	user definable display	format	
	What output capabilities would you expect from	om this product?		
16.				
16.	Combine results of multiple searches	☐ transfer to disk		
16.	combine results of multiple searches custom report forms			
16.	ustom report forms	transfer to printer		
16.				

Thank you for participating in the Current Awareness Bibliography User Needs Assessment. Please fold this document in thirds, tape closed, and mail by July 15, 1988.

Fold here first.

DEFENSE TECHNICAL INFORMATION CENTER CAMERON STATION ALEXANDRIA, VA 22304-6145

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MS. CAROL JACOBSON DEFENSE TECHNICAL INFORMATION CENTER CAMERON STATION DTIC-EA ALEXANDRIA, VA. 22304-6145

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Appendix D

Current Awareness Bibliography (CAB) on Diskette Project Statement

1 8 JUL 1993

REFER TO

DTIC-L (Ms. Mullen/46886/kdr//dticl/krice/220.01/proj-733133200)

SUBJECT: Major Project 733 13 3200, Current Awareness

Bibliography (CAB) on Diskette

TO: DTIC-E

1. DTIC-DD approved the enclosed major project and MBO Milestone Chart on 1 Jul 88.

- 3. The subsidiary cost code (SCC) established for this project is 733133200. To ensure that all time spent on this project is properly charged, the project officer should instruct the participants to report their expended time via the Labor Exception Report (LER) card. Upon completion of the project, an analysis will be performed of the costs and time-charging methods and furnished to the Administrator. The SCC must not be used as the home code for any employee.
- 4. We prepare a monthly management information report to keep the Administrator informed of the ongoing status of the DTIC major projects. To assist us in preparing a timely report, activity occurring on the project should be furnished DTIC-LP by the 10th of each month, either in writing or verbally. If no report is received, it is assumed there was no activity and will be reported as such.
- 5. Major changes to a project are to be provided in writing to the Administrator through DTIC-L for recommendation. Major changes include such things as suspension, cancellation, lengthy delay (over 3 months), or completion of the project.
- 6. This project supplements DLA General Objective 3, Technological Advancement. The assigned DTIC Management By Objective (MBO) goal number is 03.A.23.
- 7. If you have any questions, contact Ms. Margaret Mullen, X46886.

1 Encl

CARLYNN J. THOMPSON
Director, Office of Policy, Plans,

and Resource Management

cc:
Project Officer
Coordinating Individuals (IOM only)
DTIC-L (MBO Focal Point) (MBO Milestone Chart)

s. Jacc n, DTIC-EA

PROJECT STATEMENT

- PROJECT TITLE: Current Awareness Bibliography (CAB) On Diskette
- 2. PROJECT NUMBER: 733 13 3200
- 3. OBJECTIVE: This project relates to the following DTIC 2000 goals: 4.2, Establish the kinds of information storage needed and 4.7, Use new technologies to expand the media in which DTIC products are provided. The objective is to determine the feasibility of producing Current Awareness Bibliographies on diskette as well as in hard copy.

4. BACKGROUND:

The Defense Technical Information Center (DTIC) is responsible for providing, acquiring, storing, retrieving, disseminating, utilizing, and enhancing scientific and technical information for the Department of Defense (DoD) activities, DoD contractors and potential contractors, and other U.S. Government agencies and their contractors. Traditionally, this role has been limited to information in paper copy and microfiche format.

In 1981, DTIC initiated a project to determine the feasibility of accepting various forms of input from participating agencies and providing additional services to these organizations. Four types of input were considered, camera-ready copy of technical reports for primary distribution, microfiche copy of technical reports for secondary distribution, combination hard copy/microfiche technical reports for secondary distribution, and documentless DD Forms 1473. At least one example of each type of input was entered into the Technical Reports (TR) Database on the Defense RDT&E Online System (DROLS) and further disseminated. Thus, the feasibility of accepting technical reports in the above formats was demonstrated.

With the advent of the microcomputer and its implications for accessing databases, many database producers and distributors are looking for other formats in which to present their data. Some database producers such as BioSciences Information Services are providing their users with current awareness bibliographies on diskettes in recognition of the extensive use of microcomputers for accessing databases. Other database producers and database distributors, such as Public Affairs Information Service, H. W. Wilson Co., BRS Information Technologies, and Dialog Information Services, Inc., are looking to optical media as yet another means of information transfer. These database producers and database distributors are making portions of databases available on CD-ROM and distributing the compact disks to their users. In some cases, database producers are making their databases available on CD-ROM through third party vendors such as SilverPlatter Information, Inc. These third parties vary in the amount of service they provide from simply a subscription service to a provider of hardware, software, and the subscription service.

Over the past several years, DTIC has received numerous requests to distribute technical information in non-standard forms. In a number of instances, users have shown an interest in receiving bibliographic data, in the form of demand bibliographies as well as Current Awareness Bibliographies (CABs), on diskette. In addition, some users have requested that DTIC provide a portion of its TR Database in a CD-ROM format.

5. CURRENT STATUS:

Given the advancements in technology, the proliferation of microcomputers, and the continuing interest in keeping abreast in the latest information on DoD-funded research, an enhancement to the CAB product is being proposed. The new product will be called CAB on diskette and will afford the CAB user many features which are not available with the print product.

The new product will provide users with a means of accumulating CABs, further refining searches, creating ad hoc reports and bibliographies, and tracking DoD-funded research in selected areas. CAB on diskette will be a time-saving tool for the busy researcher or information specialist in that it will eliminate the need for downloading information in his or her area of interest from the TR Database.

This effort will consist of the development of a prototype CAB on diskette. During the development of the prototype, an abbreviated user-needs survey will be conducted to determine the hardware/software being used by current CAB users. Information storage and retrieval software which matches user requirements will be selected and procured, and the database will be developed.

6. PLAN OF ACTION:

The project has four phases:

a. Product Design and Development - The mandatory and desirable characteristics of CAB On Diskette will be determined by assessing user needs. A survey form will be designed and distributed to CAB users during a regular CAB cycle. The results of the user-needs survey will be the basis for the development of the functional specification. The functional specification will include a description of the enhanced capabilities provided by the magnetic media.

After the functional specification is accepted, a detailed system specification will be prepared. The system specification will include a description of the database design; screen layouts; reports; display formats; as well as connections to the DoD Gateway Information System (DGIS), DROLS, the WORM drive, the hard disk, and the TR Database on CD-ROM.

Appropriate information storage and retrieval software will be identified. Copies of the software will be acquired for review

purposes. The software will be tested and evaluated against the mandatory and desirable characteristics identified in the functional specification. A report describing the results of the test and recommending a software package will be prepared. The recommended software will be procured. The final stage will involve the development of the prototype CAB On Diskette and the preparation of complete user and system documentation. The estimated date for the delivery of the prototype is Aug 89.

- b. Evaluation of Prototype Potential users who will be participating in the test of the prototype will be identified. These users and the DTIC project officer will need to be trained. After the prototype test, a complete written evaluation, including recommendations for changes to the prototype, will be prepared. It is estimated that the product will become operational in Jul 90.
- c. Marketing Marketing considerations include pricing, announcement, and advertising. The project officer and the Office of User Services and Marketing (DTIC-B) will determine the pricing structure for the product and request the necessary system changes for billing purposes. A product announcement will be made, and promotional materials will be designed and distributed to potential users. Other means of advertising the new product will be explored. A complete marketing plan for CAB On Diskette will be developed by Nov 90.
- d. Evaluation of Operational Product Once the product is operational, it will be turned over to DTIC-HAR. CAB On Diskette should be monitored by DTIC-HAR and the project officer for the first 6 months that it is an operational product. It should then be evaluated for possible enhancements. A written evaluation of the operational product will be available in Aug 91.

7. PROJECT SCHEDULE:

W/ 1 h		Danish and			ESD			ECD	
Milestone	1.	Development and approval project statement.	OI	25	Apr	88	17	Jun	88
PHASE I	2.	Prepare user survey questionnaire.		20	Jun	88	15	Jul	88
	3.	Conduct a survey of CAB/DROLS users.		18	Jul	88	19	Aug	88
	4.	Prepare a detailed specification of the system.		22	Aug	88	23	Sep	88
	5.	Test and evaluate information storage and retrieval software.		26	Sep	88	28	Oct	88
	6.	Software selection.		31	Oct	88	2	Nov	88

	,						
7.	Software procurement.	3	ESD Nov		30	ECD Dec	88
8.	Implement CAB On Diskette database structure.	2	Jan	89	2	Jun	89
9.	Implement CAB On Diskette display formats.	2	Jan	89	2	Jun	8 9
10.	Implement CAB On Diskette report formats.	2	Jan	89	2	Jun	89
11.	Implement DROLS to CAB On Diskette connection.	2	Jan	89	2	Jun	89
12.	Implement CAB On Diskette to WORM connection.	2	Jan	89	2	Jun	89
13.	Implement TR Database on CD-ROM to CAB On Diskette connection.	2	Jan	89	2	Jun	89
14.	Implement CAB On Diskette to hard disk connection.	2	Jan	89	2	Jun	89
15.	Prepare draft documentation for use during the test and evaluation of the prototype.	5	Jun	89	4	Àug	89
16.	Obtain permission from the software vendor to copy the software for purposes of the test (or otherwise avoid software licensing infringement).	. 5	Jun	89	4	Aug	89
17.	Select a group of users to participate in the test and evaluation of the prototype CAB On Diskette.	5	Jun	89	4	Aug	89
18.	Select a group of profiles to be used for the test of the prototype CAB On Diskette.	5	Jun	89	4	Aug	89
19.	Test and evaluate the prototype.	7	Aug	89	3	Nov	89
20.	Determine the feasibility of CAB On Diskette in an operational environment.	6	Nov	89	29	Dec	89

			ESD		ECD
21.	Submit system change requests:	2	Jan	90	2 Feb 90
22.	Implement system changes.	2	Feb	90	2 May 90
23.	Establish standard operating procedures for production and distribution of CAB On Diskette.	2	May	90	2 Jul 90
24.	Determine whether special mailing materials are required and request them.	2	Jul	90	16 Jul 90
25.	Determine product pricing.	2	Ju1	90	2 Aug 90
26.	Prepare product announcement.	2	Aug	90	2 Sep 90
27.	Prepare promotional brochure for the product.	2	Aug	90	2 Oct 90
28.	Develop a marketing plan for CAB On Diskette.	2	Aug	90	2 Nov 90
29.	Make CAB On Diskette an operational product.	2	Nov	90	2 Feb 91
30.	Conduct a 6-month product evaluation.	2	Feb	91	2 Aug 91

8. RESOURCES:

a. Personpower - Estimated hours per milestone:

	DTIC-EA				
Milestone	PO/CL	DTIC-B	DTIC-F	DTIC-HAR	DTIC-Z Contractor
1	24/ 8				
2	40/ 8			24	80
3	24/ 8			16	120
4	24/ 8			16	120
5	16/ 8			8	120
6					24
7					24
8	24				120
9	8				40
10	8				40
11	8				40
12	8				40
13	8				40
14	8				40
15	8				24
16	8				24

	DTIC-EA					
Milestone	PO/CL	DTIC-B	DTIC-F	DTIC-HAR	DTIC-Z	Contractor
17	24			24		
18	24			24		
19	160/ 24			80		120
20	160					
21	80/ 16					
22	24				360	
23	80/ 24		40	40	40	
24	40/ 8		24			
25	40/ 8	24				
26	24/ 4	24		24		
27	16/ 2	80		16		
28	24/ 4	120		16		
29	16			16		
30	80/ 16			40		
TOTAL:	1,008/146	248	64	344	400	1,016

TOTAL FOR PROJECT: 3,226

b. Other Resources - The following funds have been requested for FYs 88-89 for contractor support and equipment:

	Support	Equipment
FY 88	\$59.8K	
FY 89	120K	25K
FY 90		2,5 K

MOTE: The \$59.8K will be moved from Purchased Services/Commercial Object Class 25.27, E Non-std media in the Mar 88 Checkbook.

9. BACKGROUND MATERIAL:

- a. Non-Standard Media Distribution Project Statement, Major Project Number 733.13 01, 3 Nov 86.
- b. Handbook for Users of the Defense Technical Information Center, DLAH 4185.8, Dec 85.
 - c. CAB Brochure

10. PROJECT OFFICER:

- a. Carol E. Jacobson DTIC-EA Caror C. Specific Date 5-/2/85
- b. Coordination:

	Carlyn Thaps	Date	5/2/88
DTIC-EB	Suntitue	Date	5/5/88

DTIC-E	offer the Quely	Date	76/88
DTIC-B	Churty	Date	2/19/88
DTIC-F	(10)-	Date	5/26/88
DTIC-HAR	James & adker	Date	5/24/86
DTIC-HA	Tyller Musice		5/24/88
DTIC-H	Malga Margar		5-24-86
DTIC-Z	fait. Welly	Date	5-25-88
DTIC-L	Carly J. Thorpas	Date	.5.27-38
11. APPROVING OF	ICIAL: Faul A. Robey, Jr. Deputy Administra	r. 9	7-1-81

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	Month	7	A	S	С	z	, G	ш.	Σ	A	Σ				S	0	0		<u> </u>	Σ	6	or Person
1. CONDUCT USER SURVEY	/EY	0											_								IO	DTIC-E
2. PREPARE DETAILED					0	-				1											O	DTIC-E
SPECIFICATION OF SYSTEM	SYSTEM															-			-			
3. SELECT/PROCURE SOFTWARE	FTWARE						0														D1	DTIC-E
4. DESIGN PROTOTYPE							_					0			_						[O	DTIC-E
5. PREPARE DOCUMENTATION	TION												9		7						LO DI	DTIC-E
6. TEST AND EVALUATE														-		0					LQ	DTIC-E
PROTOTYPE					,	- 1	_	•						_					-	_		
7. DETERMINE WHETHER IT IS	11 15				+								-	-	-			*	+		D	DTIC-E
A VIABLE OPERATIONAL	NAL	\dashv			+	+	\dashv					\dashv	\dashv						+			
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DLA FORM 1687

Appendix E

Non-standard Media
Distribution Project Statement

PROJECT STATEMENT

- 1. PROJECT TITLE: Non-Standard Media Distribution
- 2. PROJECT NUMBER:
- 3. OBJECTIVE: This project relates to the following DTIC 2000 goals: 4.2, Establish the kinds of information storage needed and 4.7, Use new technologies to expand the media in which DTIC products are provided. The objective is to determine the feasibility of developing, accepting, announcing, and distributing products on non-standard media.
- 4. BACKGROUND: The Defense Technical Information Center (DTIC) is responsible for providing, acquiring, storing, retrieving, disseminating, utilizing, and enhancing scientific and technical information for Department of Defense (DoD) activities, DoD contractors and potential contractors, and other U. S. Government agencies and their contractors. Traditionally, this role has been limited to information in paper copy and microfiche format.

In 1981, DTIC initiated a project to determine the feasibility of accepting various forms of input from participating agencies and providing additional services to these organizations. Four types of input were considered, camera ready copy of technical reports for primary distribution, microfiche copy of technical reports for secondary distribution, combination hard copy/microfiche technical reports for secondary distribution, and documentless DD forms 1473. At least one example of each type of input was entered into the Technical Reports (TR) database on the Defense RDT&E OnLine System (DROLS) and further disseminated. Thus, the feasibility of accepting technical reports in the above formats was demonstrated.

CURRENT STATUS: With the advent of the microcomputer and its implications for accessing databases, many database producers and distributors are looking for other formats in which to present Some database producers such as BioSciences their data. Information Services are providing their users with current awareness bibliographies on floppy disk in recognition of extensive use of microcomputers for accessing databases. such as National Technical Information database producers, Service (NTIS), are looking to optical media as yet another means These database producers are making of information transfer. portions of their databases available on CD-ROM disks. The disks are being distributed through third party vendors such as Digital Equipment Corporation and SilverPlatter Information, Inc. These third parties vary in the amount of service they provide from simply a subscription service to a provider of hardware, software, and the subscription service.

Over the past year, DTIC has received numerous requests to distribute technical information in non-standard forms. In Feb 86

the Vice Commander, Air Force Space Technology Center (AFSTC) requested that DTIC provide AFSTC with assistance in the distribution of the Space Systems Data Base (SSDB), a personal computer-based database. The database deals with the Military Space Systems Technology Plan and the Strategic Defense Initia-SSDB is a classified database. Aerospace Corporative (SDI). tion is developing the database. It is anticipated that the database will be distributed on floppy disk, removeable hard In Apr 86 and Jun 86, DTIC received redisk, and/or CD-ROM. quests from Rome Air Development Center (RADC) for assistance in the distribution of some large computer programs that are used by the Air Force and its community of contractors to characterize the electromagnetic phenomena associated with newly developed systems or with existing systems undergoing modification. programs are available on magnetic tape. In Mar 86, DTIC received a request from the Electromagnetic Compatibility Analysis Center (ECAC) to provide assistance in the distribution of Aircraft Inter-Antenna Propagation with Graphics (AAPG) Computer Program and user manuals. AAPG is available on magnetic tape, and the user manuals are available in hard copy. example is the Users' Guide for the Communications Assessment Program (CAP) - Revision I and associated software. This report was submitted to DTIC for inclusion in the TR database and for The hard copy report was accompanied by secondary distribution. Presently, DTIC has no procea diskette with the CAP software. storing, retrieving, duplicating, and dures for acquiring, disseminating materials such as these.

6. PLAN OF ACTION: There are four phases to this project.

PHASE I - RESEARCH

The first phase involves the approval of the project statement and an investigation into the state-of-the-art in the area of non-standard media. The project officer will review the literature dealing with selected types of non-standard media such as compact disc read only memory (CD-ROM) and prepare an annotated bibliography on the subject. The bibliography will be produced using the gateway technology and will be used as a demonstration product.

PHASE II - FEASIBILITY STUDY

The second phase deals with demonstrating the cost effectiveness and technical feasibility of DTIC accepting and distributing data on non-standard media. In-house and outside personnel will be used to form a project team for this effort. The outside participants will be activities such as AFSTC, RADC, and ECAC, that have voiced an interest in having DTIC distribute non-standard media for them. The team will conduct a cost-benefit analysis and prepare a recommendation. If the effort is to DTIC's benefit, the team will investigate the feasibility of incorporating the data into an existing database vs. creating a new database.

PHASE III - PROCEDURES

The third phase deals with establishing procedures and guidelines for non-standard media. Requests for programing changes will be initiated. The physical requirements for storing non-standard media will be determined, and an impact statement will be prepared. Guidelines for input, cataloging, and indexing will be established. Procedures for duplication, order processing, and mailing non-standard media will be formulated. In addition, procedures for registering users of the new product(s) will be established. A marketing strategy for the new product(s) will be developed. Part of this strategy will address the procedures for training. Finally, a pricing structure will be developed.

PHASE IV - TEST AND EVALUATION

The final phase deals with the test and evaluation of the new product(s). Work flow patterns will be coordinated with impacted directorates and finalized. The project officer will determine the necessary hardware and software, and procurement actions will be taken. Contractor assistance will be necessary for the mastering and duplication of some of the new products. In addition, contractor assistance will be needed for the development and/or modification of software. The necessary paperwork to obtain contractor assistance will be prepared, and the contract(s) will be let. An extensive test of the input of the selected product(s) will be conducted, and a written evaluation will be prepared. If the decision is made to continue with the new product(s), policy statements will be prepared.

7. PROJECT SCHEDULE:

PHASE I - RESEARCH

Milestone 1. Development and approval of 2 Sep 86 24 Oct 86 project statement.

2. Review the literature in the 27 Oct 86 28 Nov 86 area of non-standard media.

ESD

ECD

3. Prepare a report on the state-of-the-art of non-standard media as distribution media.

PHASE II - FEASIBILITY STUDY

- 4. Demonstrate the feasibil- 2 Feb 87 27 Mar 87 ity of accepting and distributing data on non-standard media.
- 5. Identify DTIC-H, DTIC-F, 30 Mar 87 10 Apr 87 DTIC-L, and DTIC-Z project representatives.

					ESD			ECD	
Milestone	6.	Identify outside participants.		13	Apr	87	1	May	87
	7.	Identify the constraints in terms of acquiring, selecting, cataloging, indexing, inputting, retrieving, duplicating, distributing, marketing, pricing, etc. non-standard media.	19	4	May	87	24	Jul	87
,	8.	Identify necessary program changes.	ning	27	Jul	87	18	Sep	87
	9.	Evaluate the constraints it terms of costs and benefit to DTIC.		21	Sep	87	11	Dec	87
		is evaluated to be cost-b		ici	al	to	DTI	c,	the
following	mile	estones should be completed	1.						
	10.	Determine feasibility of including the citations to the data in the TR databas vs. creating a new databas	se	14	Dec	87	14	Feb	88
PHASE III	- PI	ROCEDURES							
	11.	Initiate requests for programing changes.		15	Feb	88	7	Mar	88
	12.	Determine storage requirements.	•	8	Mar	88	8	Apr	88
	13.	Establish cataloging guide lines for non-standard med input.	ia	9	Apr	88	9	Jun	88
	14.	Establish indexing guide- lines for non-standard med input.	iia	10	Jun	88	10	Jul	88
	15.	Establish procedures for to duplication of non-standar media.	the rd	11	Jul	88	11	Sep	88
	16.	Establish procedures for order processing of non-standard media.		12	Sep	88	12	Oct	88

Milestone	17.	Establish procedures for mailing non-standard media	a.	13	ESD Oct	88	13	ECD Nov	88
	18.	Develop a marketing strate for the new product(s).		9	Apr	88	13	Nov	88
	19.	Develop training procedure	es.	9	Apr	88	13	Nov	88
		Develop the pricing structure for the new product(_	9	Apr	88	14	Dec	88
	21.	Establish procedures for registering users for non standard products.		14	Nov	88	14	Dec	88
PHASE IV	- TE	ST AND EVALUATION							
		Coordinate and finalize non-standard media flow plans with contributors and in-house personnel.		15	Dec	88	15	Jan	89
	23.	Determine the hardware an software necessary for the experiment.	nd ne	16	Jul	88	16	Oct	88
	24.	Procure the necessary has ware and software.	rd-	17	Oct	88	17	Mar	89
	25	Prepare the necessary pay work for the service con- tract(s).	er-	18	Mar	89	4	Apr	89
	26	. Initiate input of selecter non-standard media.	ed		Apı	89	12	Apı	89
	27	Evaluate the non-standar media input for turnarou time, flow problems, dup cation, and mailroom.	na						n 89
	28	. Evaluate the project. I the decision is made to tinue, write policy for input.	f con-						1 89
	29	. Prepare technical report	t.		1 Au	ıg 89	3	1 00	t 89

8. RESOURCES:

a. Personpower - Estimated hours per milestone:

Milestone	DTIC-E (PO) 24	DTIC-E (CL) 8	DTIC-B	DTIC-F	DTIC-H	DTIC-L	DTIC-Z
2 3	80 160	20					
4	160						
5	24	8					
5 6	40	8				40	40
7	240		40	40	40	40 16	80
8	120		16	20	20 40	40	40
9	240		40	40	40	40	80
10	120						16
11	80	4		16			16
12	40	16		10	120		
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TOTAL FOR PROJECT: 4,608

b. Other Resources - The following funds have been requested for FYs 87-89 for contractor support and equipment:

		Contractor Support	Equipment
_	87	\$45K	\$ 5K
	88	80K	35K
	89	85K	35K

9. BACKGROUND MATERIAL:

a. Air Force Space Technology Center letter, 25 Feb 86, subject: Coordination on Data Base Dissemination.

- b. DTIC-E letter, 14 Mar 86, subject: Coordination on Database Dissemination.
- c. Electromagnetic Compatibility Analysis Center letter, 3 Mar 86, subject: Computer Model Distribution Request.
- d. Rome Air Development Center letter, 22 Apr 86, subject: Distribution of Computer Programs.
- e. Rome Air Development Center letter, 26 Jun 86, subject: Distribution of Computer Programs.

10. PROJECT OFFICER:

	a,.	Carol E. Jacobson - DTIC-EA Carol Expeole	Date 4 Sep 86
	b.	Coordination:	
		DTIC-EA Julhundin	Date 9/4/86
		DTIC-EB Stidis Alter	Date 24/86
		DTIC-E Blenthe Carley	Date 9/4/86
		DTIC-B Haultege	Date <u>9/4/8</u> C
		DTIC-F	Date 9-4-86
		DTIC-H William My	Date 9/4/86
		DTIC-L Solver Dlynn	Date 9/16/86
		DTIC-Z Vand Wallyn	Date 9/4/86
11.	APP	ROVING OFFICIAL: Canda Croley 1	Date 10/2/86
		Paul A. Robey, Jrg Deputy Administrator	
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Appendix F Current Awareness Bibliography

(sample)



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FIRST LEVEL SEARCH TERMS
ARTIFICIAL INTELLIGENCE
ROBOTICS

CONTRACT INDEX

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*LOGISTICS SUPPORT

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AD-A183 807

CORPORATE AUTHOR - MONITORING AGENCY

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*AIR FORCE WRIGHT AERONAUTICAL LABS

WRIGHT-PATTERSON AFB OH

AD-A183 807

AD-A183 631

Simplifying Decision Trees. AI-H-930 AD-A183 615

Workshop on AI (Artificial Intelligence) and Simulation (2nd) Held in Seattle, Mashington on 14 July 1987.

*AMERICAN ASSOCIATION FOR ARTIFICIAL

INTELLIGENCE MENLO PARK CA

Multilayer Networks of Self-

AFWAL-TR-87-1052

Interested Adaptive Units

AD-A183 782

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The Programmer's Apprentice: A Program Synthesis Scenario AD-A183 918

DEPT OF COMPUTER AND INFORMATION SCIENCE *MASSACHUSETTS UNIV AMPERST

AD-A183 782

*ASSOCIATION OF SCIENTISTS AND ENGINEERS OF THE NAVAL SEA SYSTEMS

COMMAND WASHINGTON DC

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1986 Year End Report for Road

ETL-0464

Following at Carnegie-Mellon. AD-A183 879

· ARMY ENGINEER TOPOGRAPHIC LABS FORT

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AD-A183 736

*NAVAL OCEAN SYSTEMS CENTER SAN DIEGO

MAYAL POSTGRADUATE SCHOOL

Automated Logistics Planning Using Historical Analogies. AD-A183 637 . . .

Reasoning Problems: Minimal-Cost Path Planning in the Cartesian

*MASSACHUSETTS INST OF TECH CAMBRIDGE

ARTIFICIAL INTELLIGENCE LAB

Survey of Mobile Robots.

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(NAVSEA-450-80G-TR-0004)

AD-A183 688

AI-M-897

1986 Year End Report for Road

Following at Carnegie-Mellon.

(ETL-0484)

AD-A183 879

*CARNEGIE-MELLON UNIV PITTSBURGH PA

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ROBOTICS INST

AD-A183 942

CMJ-RI-TR-87-11

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NAVSEA-450-90G-TR-0004 Survey of Mobile Robots AD-A183 688

RESEARCH AND DEVELOPMENT CENTER *PITTSBURGH UNIV PA LEARNING . .

Toward a Theory of Curriculum for Use in Designing Intelligent UPITT/LRDC/ONR/LSP-2 Instructional Systems AD-A183 832

*STRATEGIC DEFENSE INITIATIVE ORGANIZATION WASHINGTON DC

Reports: January - December 1988 Initiative Office) Technical Information Management Center Information Management Center Bibliography of Unclassified SDIO (Strategic Defense AD-A183 875 *SYSTEMS EXPLORATION INC SAN DIEGO CA Knowledge Acquisition (NOSC-TR-1094) Methodology.

SYALE UNIV NEW HAVEN CT DEPT OF . . . COMPUTER SCIENCE

AD-A183 551

Integrated Processing in Planning and Understanding. AD-A183 853 YALEU/CSD/RR-489

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UNCLASSIFIED

Probabilistic Solution of Ill-Posed Problems in Computational

AI-M-907

Apprentice: On the Boundary between Informal and Formal Specifications Toward a Requirements

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AI-M-933

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Solving a Class of Spatial AD-A183 900 MAVAL SEA SYSTEMS COMMAND WASHINGTON

CORP AUTHOR-MONITOR AGENCY-1 UNCLASSIFIED

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AD-A183 553

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Morkshop on AI (Artificial Intelligence) and Simulation (2nd) Held in Seattle, Washington on 14 July 1987,

*RICH, CHARLES

PERSONAL AUTHOR INDEX-1 UNCLASSIFIED CA200H

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The Programmer's Apprentice: A program Synthesis Scenario. AD-A183 918

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Solving a Class of Spatial Reasoning Problems: Minimal-Cost Path Planning in the Cartesian Plane.

*SCHAMK, ROGER C.

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*STELZNER, MARILYN

Workshop on AI (Artificial Intelligence) and Simulation (2nd) Held in Seattle, Washington on 14 July 1987, AD-A183 736

THORPE, CHARLES

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1986 Year End Report for Road Following at Carnegie-Mellon. AD-A183 879

*WATERS, RICHARD C.

Toward a Requirements Apprentice: On the Boundary between Informal and Formal Specifications, AD-A183 631

The Programmer's Apprentice: A program Synthesis Scenario.

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Morkshop on AI (Artificial Intelligence) and Simulation (2nd) Held in Seattle, Mashington on 14 July 1887, AD-A183 736 PERSONAL AUTHOR INDEX-2 UNCLASSIFIED CA200H

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AI-M-887 AD-A183 807

AD-A183 831 AI-M-907

AD-A183 815 AI-M-930

AI-M-933 AD-A183 918

CMU-RI-TR-87-11 AD-A183-879

ETL-0464 AD-A183 879

MAVSEA-450-90G-TR-0004 AD-A183 688

MDSC-TR-1094 AD-A183 551

UPITT/LRDC/ONR/LSP-2 AD-A183 832

YALEU/CSD/RR-489 AD-A183 553

YALEU/CSD/RR-514 AD-A183 552

REPORT NUMBER INDEX-1 UNCLASSIFIED CA200H

TITLE INDEX

Ten Problems in Artificial

Intelligence.

AD-A183 552

1986 Year End Report for Road Following at Carnegie-Mellon. AD-A183 878 Automated Logistics Planning Using Historical Analogies. AD-A183 637

Integrated Processing in Planning and Understanding.
AD-A183 583

AD-A183 553 Knowledge Acquisition Nethodology AD-A183 551

Multilayer Networks of Self-Interested Adaptive Units. AD-A183 782 Practical Applications of Artificial Intelligence, Expert Systems at NAVSEA, AD-A183 842 Probabilistic Solution of Ill-Posed Problems in Computational Vision. AD-A183 807

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Simplifying Decision Trees, AD-A183 615 Solving a Class of Spatial
Reasoning Problems: Minimal-Cost
Path Planning in the Cartesian
Plane.
AD-A183 800

Survey of Mobile Robots. AD-A183 688

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Toward a Theory of Curriculum for Use in Designing Intelligent Instructional Systems. AD-A183 832 Workshop on AI (Artificial Intelligence) and Simulation (2nd) Held in Seattle, Washington on 14 July 1987.

TITLE INDEX-1 UNCLASSIFIED CA200H DTIC REPORT BIBLIDGRAPHY SEARCH

AD-A183 942 12/9 18/1

ASSOCIATION OF SCIENTISTS AND ENGINEERS OF THE NAVAL SEA SYSTEMS COMMAND WASHINGTON DC

(U) Practical Applications of Artificial Intelligence, Expert Systems at NAVSEA.

PR 87 38P

PERSONAL AUTHORS: Hartman, Patrick J.;

UNCLASSIFIED REPORT

Symposium (24th), 1887.

ent and people act. oscillations of Artificial Intelligence. It shows how to select problems which can be solved with the aid of effective when they are applied to well defined tasks since computers are faster than people and error free for routine tasks. Expert Systems require significant Expert Systems: it also identifies areas such as common sense reasoning, automated mechine learning, and complex design synthesis which are beyond the state of the art now and will be for years to come. Artificial Intelligence programs are able to diagnose faults and classify solutions in narrowly defined specialties even when the data is 'fuzzy', but they have not exhibited autonomous 'thinking'. Just as conventional computer programming has alleviated the burden of calculating, AI Expert Systems will streamline the processing of logical ment effort, but with then we can perform tesks every engineer can use an assistant Certain situations vill always occur which require a which were not possible before. These programs are This paper examines the historical mentally different than these which performed data. Both of these computer techniques are cost numerical calculations in the past. They process by which equipm 'real expert', but every engil Information - the rules

DESCRIPTORS: (U) *ARTIFICIAL INTELLIGENCE. *NAVAL ARCHITECTURE, SYNTHESIS, COSTS, AUTOMATION, LEARNING MACHINES, COMPUTERS, METHOROLOGY, COMPUTER PROGRAMMING, COMPUTATIONS, MUMERICAL ANALYSIS, MILITARY APPLICATIONS, SYMPOSIA

IDENTIFIERS: (U) Expert systems

AD-A183 942

Y SEARCH CONTROL NO. CA200H

AD-A183 918 12/5

MASSACHUSETTS INST OF TECH CAMBRIDGE ARTIFICIAL INTELLIGENCE LAB

(U) The Programmer's Apprentice: A Program Synthesis Scenario.

DESCRIPTIVE NOTE: Memorandum rept.,

NOV 86 47

PERSONAL AUTHORS: Rich, Charles ; Waters, Richard C. ;

REPORT NO. AI-M-833

CONTRACT NO. NOO014-85-K-0124, NSF-IR186-16644

UNCLASSIFIED REPORT

ABSTRACT: (U) A scenario is used to illustrate the capabilities of a proposed Synthesis Apprentice. Given a specification, the Synthesis Apprentice will be able to the design decisions needed to synthesize the required program. The Synthesis Apprentice will also be able to detect various kinds of contradictions and omissions in a specification. (Author)

DESCRIPTORS: (U) *COMPUTER PROGRAMMING, *SYSTEMS ENGINEERING, SPECIFICATIONS, PROBLEM SOLVING SCENARIOS, SYNTHESIS, ARTIFICIAL INTELLIGENCE

COMPUTERS: (U) C Programming language, PDP/II

AD-A183 918

UNCLASSIFIED

PAGE 1

SEARCH CONTROL NO. CA200H DTIC REPORT BIBLIOGRAPHY

AD-A183 900

MONTEREY CA MAVAL POSTGRADUATE SCHOOL (U) Solving a Class of Spatial Reasoning Problems: Minimal-Cost Path Planning in the Cartesian Plane.

Doctoral thesis. DESCRIPTIVE NOTE:

Richbourg, Robert F. ; PERSONAL AUTHORS:

UNCLASSIFIED REPORT

This work presents an algorithm to solve a average-case time requirements and we prove properties of Smell's law when applied to the weighted-region problem. represent the only possible paths. We use Snell's law as a local-optimality criterion to create corresponding graphs for the weighted-region problem; the modes in our graphs represent areal subdivisions of the physical cost. We present a criterion to predict the time for the wavefront-propagation algorithm and the Snell's-law algorithm to solve problems; this allow the selection of two-dimensional weighted-region problem that requires finding the least-cost regions. Such regions have a constant cost rate per unit distance accrued by paths passing through them. Conventional graph search applies algorithm, as measured by time, space and solution-path algorithm is compared to that of a dynamic-programming, wavefront-propagation technique. Test results show the fastest algorithm. We also develop improvements to the wavefront-propagation algorithm that decrease its environment. The performence of our Smell's-law-based average-case superiority of the Snell's-law-based standard search strategies to graphs whose links

*ARTIFICIAL INTELLIGENCE, PATHS, THESES, ALGORITHMS, COSTS, GRAPHS, PHYSICAL PROPERTIES, RANGE(DISTANCE), RATES, REASONING, SEARCHING, SWELLS LAW, STRATEGY, TWO *PROBLEM SOLVING *ALGORITHMS. DIMENSIONAL, WAVEFRONTS DESCRIPTORS:

*Spatial reasoning 3 IDENTIFIERS:

17/7 12/8 AD-A183 879

CANNEGIE-WELLEN UNIV PITTSBURGH PA ROBOTICS INST

1886 Year End Report for Road Following at Carnegle-5 9

Armuel rept. 18 Jan 88-14 Jan 87 DESCRIPTIVE NOTE:

6 Ž Therpe, Charles ; Kanade, Takeo PERSONAL AUTHORS:

CMJ-RI-TR-87-11 REPORT NO. DACA78-85-C-0003, ARPA Order-5351 CONTRACT NO.

MONITOR:

E \$

UNCLASSIFIED REPORT

handling difficult roads, and built range finder programs and navigation for outdoor mobile robots at the Carnegie Mellon Robotics Institute during 1986. This research was sponsored by DARPA as part of the Strategic Computing Initiative. Our work during 1986 culminated in two Sidewalk II, uses a video camera to follow sidewalks and a laser rangefinder to detect and avoid stairs. Sidewalk our new Chevrolet Van This report describes progress in vision demonstration systems. The first system drives the Terregator, a desk-sized robot with six wheels, around the network of campus sidewalks. This system, named obstacles. We developed computer vision techniques for Park Navigation, uses the Naviab, our new Chevrolet Variobot. The Park system concentrated on vision for following difficult roads, including curves, dirt and leaves, shadows, puddles, and both moving and fixed predictions and for path planning. The second system for detecting and avoiding obstacles. Keywords: II makes extensive use of map data, for visual Autonomous navigation. ABSTRACT:

ISCRIPTORS: (U) *ROBOTS, WETHODOLOGY, VISION, LASERS, RANGE FINDING, PATHS, PLANNING, ROADS, VISION, BARRIERS, MOTION, MOBILE, OUTDOOR, ROBOTICS, DEMONSTRATIONS, CAMERAS, AUTONOMOUS NAVIGATION, PREDICTIONS DESCRIPTORS:

ENTIFIERS: (U) CODGER computer program, CODGER(Communicating Database with Geometric Reasoning). IDENTIFIERS: (U)

AD-A183 879

AD-A183 900

SEARCH CONTROL NO. CA200H DTIC REPORT BIBLIOGRAPHY

> CONTINUED AD-A183 879

PEB2301E

9/2 15/3.1 AD-A183 875

STRATEGIC DEFENSE INITIATIVE ORGANIZATION WASHINGTON DC

(U) SDIO (Strategic Defense Initiative Office) Technical Information Management Center Bibliography of Unclassified Reports: January - December 1986.

UNCLASSIFIED REPORT

ISTRACT: (U) This bibliography lists the Strategic Defense Initiative Organization Technical Information Management Centers holdings of publications pertaining to such topics as Software Testing Measures, Digital Beamforming Arrays, Experimental Electromegnetic Launchers, Rail Guns, Artificial Intelligence, Microwave Imaging, Optical Technology, Soviet Military Power, and Soviet Laser Developments. ABSTRACT:

DESCRIPTORS: (U) *ANTIMISSILE DEFENSE SYSTEMS,
ARTIFICIAL INTELLIGENCE, ELECTROMAGNETISM, LAUNCHERS,
OPTICS, COMPUTER PROGRAMS, TEST AND EVALUATION, USSR,
ARRAYS, BEAM FORMING, DIGITAL SYSTEMS, IMAGES, MICROMAVES,
ELECTRIC GLMS, STRATEGIC WARFARE, BIBLIOGRAPHIES

Strategic Defense Initiative IDENTIFIERS: (U)

UNCLASSIFIED

SEARCH CONTROL NO. CA200H DTIC REPORT BIBLIDGRAPHY

> 12/8 AD-A183 832

PITTSBURGH UNIV PA LEARNING RESEARCH AND DEVELOPMENT

(U) Toward a Theory of Curriculum for Use in Designing Intelligent Instructional Systems.

*ARTIFICIAL INTELLIGENCE, CONTROL SYSTEMS, STUDENTS. INSTRUCTIONAL MATERIALS, TEACHING METHODS, LEARNING.

EDUCATION, THEORY, COGNITION

PEB1153N, MMMBB7524

3

IDENTIFIERS:

*COMPUTER AIDED INSTRUCTION

3

DESCRIPTORS:

CONTINUED

AD-A183 832

Technical rept., DESCRIPTIVE NOTE:

AUG 87

Lesgold, Alan M. ; PERSONAL AUTHORS:

UPITT/LRDC/ONR/LSP-2 REPORT NO.

N00014-85-K-0655 CONTRACT NO.

RR04208 PROJECT NO.

RR0420800 TASK NO.

MCLASSIFIED REPORT

insensitive to the subtleties of different students' partial knowledge. There was a reaction in the direction of representing the students' knowledge as a subset of the target or goal knowledge to be taught and simply deciding de novo after each piece of instruction what piece of missing knowledge to teach the student. Goal knowledge is as important to intelligent machine activity as it is to human activity, and that it also must be well understood and explicitly represented in an instructional the report focuses on the concept of prerequisite instructional subgoal (curriculum) context, is introduced ourriculum or goal knowledge in intelligent epiphenomenon of knowledge-driven instruction. Early computer-based instruction had little control structure current efforts to create intelligent computer-based instruction is the notion that curriculum is almost an representing ourriculum or goal knowledge in intelliger tutors and is first step toward a theory of curriculum that can inform the design of such systems. The later system if that system is to be successful in fostering inadequate in the past. A new approach, in which the prerequisite relationship is always dependent on the learning. This report presents an architecture for other than an absolutely rigid curriculum and was the basis for existing computer-assisted instruction and shows how that concept has been Implicit in the

AD-A183 832

AD-A183 832

UNCLASSIFIED

CAZOOH PAGE

SEARCH CONTROL NO. CA200H DTIC REPORT BIBLIDGRAPHY

AD-A183 807

MASSACHUSETTS INST OF TECH CAMBRIDGE ARTIFICIAL INTELLIGENCE LAB Probabilistic Solution of Ill-Posed Problems in Computational Vision. 3

Memorandum rept., DESCRIPTIVE NOTE:

4 MAR 87 Marroquin, J. ; Mitter, S. ; Poggio, Tomaso ; PERSONAL AUTHORS:

AI-M-897 REPORT NO. NO0014-85-K-0124, DAAG29-84-K-0005 CONTRACT NO.

UNCLASSIFIED REPORT

architectures, as well as a new class of parallel hybrid solution. They derive efficient algorithms and describe parallel implementations on digital parallel SIMD Computational vision is a set of inverse problems. The authors review standard regularization theory, discuss its limitations, and present new stochestic (in particular, Bayesian) methods for their intelligence; Problem solving; Probablistic approach computers. Keywords: Stochastic methods; Artificial (Author) ABSTRACT:

*COMPUTER APPLICATIONS, ALGORITHMS, EFFICIENCY, PROBABILITY, SOLUTIONS(GENERAL), INVERSION, COMPUTATIONS, HYBRID COMPUTERS, PARALLEL ORIENTATION, PROBLEM SOLVING, *ARTIFICIAL INTELLIGENCE, *VISION, STOCHASTIC PROCESSES DESCRIPTORS:

*Computer vision, WMRSR0202 E IDENTIFIERS:

12/7 AD-A183 782

23/3

AMHERST DEPT OF COMPUTER AND INFORMATION SCIENCE MASSACHUSETTS UNIV

(U) Multilayer Networks of Self-Interested Adaptive Units.

Sep 83-Sep 86, Final rept. DESCRIPTIVE NOTE:

1496 JUL 87

Barto, Andrew G. PERSONAL AUTHORS:

F33615-83-C-1078 CONTRACT NO.

2312 PROJECT NO.

E TASK NO.

TR-87-1052 AFVAL MONITOR:

UNCLASSIFIED REPORT

propagation are compared and contrasted in terms of their define a learning rule called the Associative Revardaberalty, or A sub R-P, rule that has strong ties to both the theory of adaptive pattern classification and stochastic learning automata. We state a convergence result that has been proven for a single A sub R-P units can reliably learn nonlinear associative mappings. The behavior of these networks is discussed in terms of the in mailtilayer instructs are compared, including the A sub R-P method and the error back-propagation method. These methods, or variants of them, outperform the other team decision problems. A number of methods for learning collective behavior of stochastic learning automata in This report describes research directed propagation showing a significant speed advantage over the other methods. The A sub R-P and error backtoward refining and evaluating learning methods for multilayer networks of neuron-like adaptive units. We applied to the test problem, with error backrespective approaches to gradient following. ŝ methods

PATTERNS, STOCHASTIC PROCESSES, TEAMS(PERSONNEL), *ADAPTIVE SYSTEMS, *LEARNING E DESCRIPTORS:

AD-A183 807

DTIC REPORT BIBLIOGRAPHY SEARCH CONTROL NO. CA200H

AD-A183 782 CONTINUED

VARIATIONS, ARTIFICIAL INTELLIGENCE, LEARNING CURVES, ALGORITHMS, ERRORS, NETWORK ANALYSIS (MANAGEMENT)

IDENTIFIERS: (U) PEB1102F, WUAFWAL2312R104

AD-A183 736 12/9 12/5

12/4

AMERICAN ASSOCIATION FOR ARTIFICIAL INTELLIGENCE MENLO PARK CA

(U) Workshop on AI (Artificial Intelligence) and Simulation (2nd) Held in Seattle, Washington on 14 July 1967,

JUL 87 1401

PERSONAL AUTHORS: Fishwick, Paul A. ; Modjeski, Richard B. ; Ziegler, Bernard P. ; Reddy, Ramana ; Stelzner, Marilyn ;

UNCLASSIFIED REPORT

ABSTRACT: (U) The Second Artificial Intelligence (AI) and Simulation Workshop was held during the National Conference on Artificial Intelligence on July 14, 1987 at the University of Washington, Seattle, the abstracts and papers pertain to such topics as: Artificial Intelligence; Computer Science; Copmputer Simulation Modeling; Expert Systems; Knowledge Based Simulation; Computer Modeling; Expert Systems; Knowledge Based Simulation; computer Modeling; Systems; Knowledge Based Simulation; and Simulation; and

DESCRIPTORS: (U) *COMPUTERIZED SIMULATION, *ARTIFICIAL INTELLIGENCE, COMPUTERS, MODELS, OPERATIONS RESEARCH, SYMPOSIA, WORKSHOPS

IDENTIFIERS: (U) Expert Systems

UNCLASSIFIED

SEARCH CONTROL NO. CA200H DTIC REPORT BIBLIOGRAPHY

AD-A183 688

MASSACHUSETTS INST OF TECH CAMBRIDGE ARTIFICIAL INTELLIGENCE LAB

(U) Survey of Mobile Robots.

DESCRIPTIVE NOTE: Final tachnical rept.,

DEC 85

Flynn, Anita M. PERSONAL AUTHORS:

MONITOR:

450-90G-TR-0004

UNCLASSIFIED REPORT

mer! zes Algorithms; Artificial Intelligence; Autonomous Vehicles Laser Range Finders; Manipulator; Map Making; Obstacle Avoidance; Path Planning; Sensors; Sonar; Vision. has been done in the past on mobile robots and summerize certain projects currently being pursued. Special emphasis is placed on how these efforts have approached or solved the problem of modeling the environment and using the model for the purposes of navigation. Keywords STRACT: (U) This document consisting of text and graphics reports on a survey of robots developed from 1967 to the present, the report outlines the work which

ARTIFICIAL INTELLIGENCE, ANDIDANCE, BARRIERS, DETECTORS, GRAPHICS, LASER APPLICATIONS, MAPPING, MOBILE, MODELS, MAPPING, MOBILE, MODELS, MAPPING, MODILE, MODELS, MAPPING, PATHS, PLANNING, RANGE FIRMING. SURVEYS, VEHICLES, VISION DESCRIPTORS:

AD-A183 637

MONTEREY CA MAYAL POSTGRADUATE SCHOOL Automated Logistics Planning Using Historical Analogies. 3

Master's thesis. DESCRIPTIVE NOTE:

LER 87

Davis, Mark J. ; PERSONAL AUTHORS:

UNCLASSIFIED REPORT

in the historical records of the three stongest analogies supply items by referencing equations and variables from current Army planning documents and performing the necessary calculations. The program uses reasoning to in each category is used to revise the general estimates The automated-logistics-planning system described in thi thesis addresses this deficiency. The program developed in this research produces general estimates for selected logistics estimates in the Army inadequately incorporate historical data on the actual consumption of supplies. identify previous operations which are analogous to the current operation. Separate criteria are used to identif of five categories of supply items. Information contains predicting actual supply requirements for the current operation than the estimates generated by formula alone The current method for creating tactical the strongest analogies to the current operation for e The revised estimates are hopefully more accurate in 3

SCRIPTORS: (U) *LOGISTICS PLANNING, *LOGISTICS SUPPORT, ARMY PLANNING, AUTOMATION, CONSUMPTION, DOCUMENTS, EQUATIONS, ESTIMATES, FORMULATIONS, LOGISTICS, LOGISTICS PLANNING, REASONING, SUPPLIES, THESES, ARMY OPERATIONS, ARTIFICIAL INTELLIGENCE, TACTICAL WARFARE ESCRIPTORS:

AD-A183 637

UNCLASSIFIED

UNCLASSIFIED

SEARCH CONTROL NO. CA200H DTIC REPORT BIBLIOGRAPHY

> 12/5 12/8 AD-A183 831

MASSACHUSETTS INST OF TECH CAMBRIDGE ARTIFICIAL INTELLIGENCE LAB Toward a Requirements Apprentice: On the Boundary between Informal and Formal Specifications, E

276

PERSONAL AUTHORS: Rich, Charles ; Waters, Richard C. ;

AI-M-807 REPORT NO.

N00014-85-K-0124 CONTRACT NO.

UNCLASSIFIED REPORT

most important and least well supported parts of the software development process. The Requirements Apprentice (RA) will assist a human analyst in the creation and modification of software requirements. Unlike current requirements analysis tools, which assume a formal description language, the focus of the RA is on the boundary between informal and formal specifications. The RA is intended to support the earliest phases of creating a requirement, in which incompleteness, ambiguity, and contradiction are inevitable features. From an artificial intelligence perspective, the central problem the RA faces is one of knowledge acquisition. It has to develop a coherent internal representation from an initial set of disorganized statements. To do so, the RA will rely on a and the reuse Apprentice project, whose overall goal is the creation of variety of techniques, including dependency-directed reasoning, hybrid knowledge representation, and the reus of common forms (cliche's). The Requirements Apprentice developed in the context of the Programmer's Requirements acquisition is one of the an intelligent assistant for all aspects of software development. is being

SCRIPTORS: (U) *ARTIFICIAL INTELLIGENCE, PROGRAMING LANGUAGES, ACQUISITION, COHERENCE, COMPUTER PROGRAMS, INTERNAL, MODIFICATION, PARTS, REQUIREMENTS, DESCRIPTORS: (U)

AD-A183 615

12/4 12/8 MASSACHUSETTS INST OF TECH CAMBRIDGE ARTIFICIAL INTELLIGENCE LAB

(U) Simplifying Decision Trees,

DEC

Quinlan, J. R. PERSONAL AUTHORS:

AI-M-930 REPORT NO. N00014-85-K-0124 CONTRACT NO.

MCLASSIFIED REPORT

constructing decision trees from collections of examples Although the decision trees generated by these methods are accurate and efficient, they often suffer the disadvantage of excessive complexity that can render the incomprehensible to experts. It is questionable whether opaque structures of this kind can be described as knowledge, no matter how well they function. This paper discusses techniques for simplifying decision trees Without compromising their accuracy. Four methods are described, illustrated, and compared on a test-bed of Many systems have been developed for decision trees from a variety of domeins. ABSTRACT:

DESCRIPTORS: (U) *ARTIFICIAL INTELLIGENCE, *DECISION MAKING, DECISION THEORY, FAULT TREE AMALYSIS, ACCURACY, TEST BEDS, INFORMATION PROCESSING

*Decision Trees 3 IDENTIFIERS:

UNCLASSIFIED

SEARCH CONTROL NO. CA200H DTIC REPORT BIBLIDGRAPHY

> 12/8 AD-A183 853

YALE UNIV NEW MAYEN CT DEPT OF COMPUTER SCIENCE

Integrated Processing in Planning and Understanding.

Research rept., DESCRIPTIVE NOTE:

200

Birrbaum, Lawrence ; PERSONAL AUTHORS:

VALEU/CSD/RR-488 REPORT NO. NO0014-75-C-1111, N00014-85-K-0108 CONTRACT NO.

UNCLASSIFIED REPORT

sementics in language understanding is analyzed from such make many decisions about which paths of inquiry are likely to prove fruitful. In order to make such decisions shortcomings are used to motivate requirements for a more Inference in explanation-based understanding is presented account as early as possible. An integrated model of understanding must take the understander's goals and hypotheses into account in making decisions about how to lexical ambiguity and vagueness are addressed, previous attemnts to solve these problems are analyzed, and their relevant contextual information must be brought to bear An integrated model of planning or understanding is one that attempts to take such contextual information into interpret an input. The relationship between syntax and Opportunistic planning, Explanatory inference, Freudian complete solution. Finally, an integrated approach to rationally, and hence avoid the need for backtracking Programs that plan and understand must are made arbitrarily. ŏ Artificial intelligence, Language unde an integrated point of view. Next, the problems that inevitably results if they Keywords:

*INFORMATION PROCESSING, *DECISION MAKING, AMBIGUITY, ANTIFICIAL INTELLIGENCE, HYPOTHESES, INTEGRATED SYSTEMS, LEXICTGRAPHY, MODELS, PLANNING, SEMANTICS, SYNTAX, *ARTIFICIAL INTELLIGENCE, PROBL: 4 SOLVING LEXICAGRAPHY, PROCESSING. DESCRIP-ORS:

12/8 AD-A183 552

YALE UNIV NEW HAVEN CT DEPT OF COMPUTER SCIENCE

(U) Ten Problems in Artificial Intelligence.

Research rept., DESCRIPTIVE NOTE:

Schank, Reger C. ; Ovens, Christopher C. PERSONAL AUTHORS:

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M00014-85-K-0108, AF05R-85-0343 CONTRACT NO.

UNCLASSIFIED REPORT

have had a difficult time defining the field's goals and assessing its progress. Some have focused on the task of developing smart machines independent of the constraints of psychological or neurological realism. Over the years the notion of what is an AI task has changed, as problem vice versa. This paper discusses some problems that are currently of interest to the field, and places them in attempts to enumerate a few essential Researchers in Artificial Intelligence aspects of intelligence that every human, animal or to be easy have turned out to be hard, exhibit. an brain, others have focused on the context of a more enduring question: What is intelligent mechine must, to some degree, intelligence? It once thought mode 11 Ing ABSTRACT:

*ARTIFICIAL INTELLIGENCE, APTITUDES, CONDITIONING (LEARNING), PROBLEM SOLVING, PREDICTIONS, INDEXES, DECODING ŝ DESCRIPTORS:

Interference, curiosity 3 DENTIFIERS:

AD-A185 353

PAGE

DTIC REPORT BIBLIDGRAPHY

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AD-A183 551 5/2 12/5 15/9

SYSTEMS EXPLORATION INC. SAN DIEGO CA

(U) Knowledge Acquisition Methodology.

DESCRIPTIVE NOTE: Final rept.,

PERSONAL AUTHORS: Fraser, Bornie D. ;

CONTRACT NO. NBB001-88-D-0087

MONITOR: NOSC

TR-1084

UNCLASSIFIED REPORT

te other Mavy expert systems. Artificial intelligence (AI) and behavioral sciences literature was reviewed for effectiveness of airstrike mission planning and decision making for a carrier wing. The technical issues are structured techniques for knowledge acquisition, integrated decision sids. An additional long-term goal is to provide guide-lines and insights that can be applied evaluating their usefulness in overcoming those problems.), and effective techniques for acquiring the peeded to build the Airstrike Planning Advisor knowledge acquisition. A number of knewledge acquisition technologies, methodology, principles and standards for the use of expert systems in the Navy. The goal of this knowledge validation, user-interface design guidelines and design tools, hybrid knowledge representation and described in this report was to develop unobtrusive toward The principal objective of the work and recommendations related to ASPA) expert system. This system will develop monstration is to improve the timeliness and techniques were attempted as an initial st problems, lessons. reliable.

DESCRIPTORS: (U) *DATA ACQUISITION, *COMPUTER PROGRAMMING, *AIR STRIKES, ACQUISITION, BEHAVIORAL SCIENCE, DECISION MAKING, MISSION PROFILES, ADVISORY ACTIVITIES, PLANNING, VALIDATION, METHODOLOGY, ARTIFICIAL INTELLIGENCE, MINGS, INTEGRATED SYSTEMS, NAVY, TIMELINESS, SYSTEMS ENGINEERING

IDENTIFIER9: (U) ASPA(Airstrike Planning Advisor), ASPA computer program, Expert systems, PE62757N, WUDN188532

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PAGE 10 CA200H

Appendix G

CAB on Diskette System Function Descriptions

(re: Hierarchy Chart Section 3.2)

SYSTEM FUNCTION DESCRIPTION				
1. DOCUMENT TITLE	2. RESPONSIBLE OFFICE			
Functional Description	DTIC			
3. DATE PREPARED 4. STATUS 5.	DESIGN ACTIVITY ACTION			
19 Aug 88 X NEW REVISED	APPROVED REVISED			
6. SYSTEM AND/OR SUBSYSTEM NAME	7. SYSTEM AND/OR SUBSYSTEM ID			
CAB on Diskette B. PARAGRAPH REFERENCE (Number and Title)	733 13 3200			
	4			
3.2 System Functions 9. FUNCTIONAL PROCESS	10. FUNCTION CODE			
Output CAB data from TR Database to diskette				
11. GENERAL DESCRIPTION OF FUNCTION				
CAB data must be transferred from the 1182 to	o IBM PC format diskettes.			
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	*			
12. DOCUMENTS ATTACHED (Decision Tables, Hierarchy Charts, Process-Input-Output Tables, Flowcharts, etc.)				

SYSTEM FUNCTION DESCRIPTION					
1. DOCUMENT TITLE	2. RESPONSIBLE OFFICE				
Functional Description	DTIC				
3. DATE PREPARED 4. STATUS	5. DESIGN ACTIVITY ACTION				
19 Aug 88 X NEW REVISED	APPROVED REVISED				
6. SYSTEM AND/OR SUBSYSTEM NAME	7. SYSTEM AND/OR SUBSYSTEM ID				
CAB on Diskette	733 13 3200				
8. PARAGRAPH REFERENCE (Number and Title)	100 20 0200				
3.2 System Functions					
9. FUNCTIONAL PROCESS	10. FUNCTION CODE				
Create initial CAB databases.	1.B.2				
11. GENERAL DESCRIPTION OF FUNCTION					
Initial CAB database must be created on CAB or compatible. CAB on Diskette information software must be utilized to index the insearchable. Space must be available on us to store the database.	on search and retrieval itial CAB data and make it				
· ·					
12. DOCUMENTS ATTACHED (Decision Tables, Hierarchy Charts, Process-Input-Output Tables, Flowcharts, etc.)					
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P .					

	SYSTEM F	UNCTION DESCR	IPTION	
1. DOCUMENT TITLE			2. RESPONSIBLE OFFICE	
Functional Desc	ription		DTIC	
3. DATE PREPARED				
19 Aug 88	X NEW	REVISED	APPROVED REVISED	
6. SYSTEM AND/OR SUBSYSTEM NA			7. SYSTEM AND/OR SUBSYSTEM I	
CAB on Diskette	Title)		733 13 3200	
3.2 System Fund	tions		10. FUNCTION CODE	
Append new CAB	data		1.8.3	
11. GENERAL DESCRIPTION OF FU	NCTION			
A custom batch add incoming C disk space mus	AB data to th	ne user's archi	tware must be utilized to val CAB database. Available	
12. DOCUMENTS ATTACHED (Decision Tebles, Hierarchy Charts, Process-Input-Output Tables, Flowsharts, etc.)				
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		3131Em 1	UNCTION DESCR		
DOCUMENT TITL	_				2. RESPONSIBLE OFFICE
	ional Des				DTIC
DATE PREPARED		4. STATUS			ACTIVITY ACTION
19 Au		X NEW	REVISED	☐ AP	PROVED
SYSTEM AND/OR					7. SYSTEM AND/OR SUBSYSTEM
CAB	n Diskett	e			733 13 3200
PARAGRAPH REF					
3.2 S	ystem Fun	ctions			
		eval software			1.B.4
GENERAL DESC					1.8.4
or co	ompatibles	prior to ini	tial CAB datab	ase creat:	ser site IBM PC's ion. Available tified to complete
MCIIMEN TO A TO	ACHES IS				
DOCUMENTS AT	ACHED (Decis	ion Tables, Hierarchy	Charts, Process-Input-	Output Tables, I	Flowenarts, etc.)

SYSTEM FUNCTION DESCRIPTION					
1. DOCUMENT TITLE			2. RESPONSIBLE OFFICE	_	
Functional Descr	ription		DTIC		
3. DATE PREPARED	4. STATUS		5. DESIGN ACTIVITY ACTION		
19 Aug 88	X NEW	REVISED	APPROVED REVISED		
6. SYSTEM AND/OR SUBSYSTEM NAM	E		7. SYSTEM AND/OR SUBSYSTEM	0	
CAB on Diskette			733 13 3200		
8. PARAGRAPH REFERENCE (Number	and Title)				
3.2 System Funct	cions				
9. FUNCTIONAL PROCESS			10. FUNCTION CODE		
Search the data			1.B.5		
11. GENERAL DESCRIPTION OF FUN	CTION				
Search capabilite chosen. Software through the CAB	re selected	will comply wit	the retrieval software th requirements identified		
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12. DOCUMENTS ATTACHED (Decision	Tables, Hierarchy	Charts, Process-Input-O	utput Tables, Flowcharts, etc.)		
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SYSTEM FUNCTION DESCRIPTION					
1. DOCUMENT TITLE				2. RESPONSIBLE OFFICE	
Functional Des	cription			DTIC	
3. DATE PREPARED	4. STATUS		S. DESIGN	ACTIVITY ACTION	
19 Aug 88	X NEW	REVISED	☐ APP	ROVED REVISED	
6. SYSTEM AND/OR SUBSYSTEM NA	ME			7. SYSTEM AND/OR SUBSYSTEM ID	
CAB on Diskett	е			733 13 3200	
A. PARAGRAPH REFERENCE (Num					
3.2 System Fun 9. FUNCTIONAL PROCESS	ctions				
9. FUNCTIONAL PROCESS Establish conn				1.B.6	
11. GENERAL DESCRIPTION OF FU				1.6.0	
Connecting to software must				Communications	
				1	
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R.					
12. DOCUMENTS ATTACHED (Decision Tables, Hierarchy Charts, Process-Input-Output Tables, Flowsharts, etc.)					

	SYSTEM FL	INCTION DESCR	IPTION	
1. DOCUMENT TITLE			2. RI	ESPONSIBLE OFFICE
Functional Des	cription			DTIC
3. DATE PREPARED	4. STATUS		5. DESIGN ACTIVI	TY ACTION
19 Aug 88	X NEW	REVISED	APPROVE	
6. SYSTEM AND/OR SUBSYSTEM NA			7. SY	STEM AND/OR SUBSYSTEM ID
CAB on Diskette	er and Title)			733 13 3200
3.2 System Fund				
9. FUNCTIONAL PROCESS			10. F	JACTION CODE
Invoke CAB hel	•			1.B.7
11. GENERAL DESCRIPTION OF FU	NCTION			
Online user he	lp must be av	ailable for al	1 CAB function	s.
F				
12. DOCUMENTS ATTACHED (Decisi	on Tables, Hierarchy	Charts, Process-Insut-O	utput Tables, Flowsher	ta, etc.)
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